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370.9407 Barron, H.W.

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A FEW NOTES

ON

THE PUBLIC SCHOOLS

AND

UNIVERSITIES

OF HOLLAND AND GERMANY,

TAKEN

DURING A TOUR IN THE SUMMER OF 1839.

BY

HENRY WINSTON BARRON, ESQ., M. P.

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PUBLIC SCHOOLS,

§c. §c.

HOLLAND.

At the Hague, the schools for the poor are all built and supported by the corporation or municipality. There are five large handsome establishments of this kind, containing about 2,500 children. In the evening, these schools are opened for adults; there is no charge for either instruction or school requisites. The males and females are taught in the same school. The school business is preceded by a general prayer, in which persons of all religious opinions can join. Both Catholics and Protestants are taught together, and no books are admitted save those approved of by the clergy of both persuasions. A History of the Bible, by Van der Palm, a Protestant, is read, and another similar history, by Schmidt, a Catholic, is also read in the school with the consent of both parties. The Protestant catechist gives lectures to those of his religion on every Wednesday, and the Catholics during that time retire for the same purpose to their parish church. The Bible itself is not read in the school, it being

considered by both parties as not suited to the capacities of children. All matters concerning religion proceed with the greatest harmony; and any master attempting to interfere with the children would be immediately dismissed. The expense of each of these schools is about 240*l.* per annum, making for the five schools 1,200*l.* a year. It is not compulsory on the parents to send their children to school; but it is very rare that they are not sent to school, and in general there are more applicants than vacancies. The rule is to keep a registry of applicants, and always to admit those whose names appear first in that registry, according as room is found in the school. The children remain until twelve years of age in the school, and after that age they must, if they continue their studies, frequent the night school. Premiums are distributed four times a year, after examinations, to the most deserving of the children. Fires are allowed in winter. The children are taught reading, writing, composition, arithmetic, the elements of geometry, drawing, geography, the history of Holland, the elements of music and chaunting. The cleanliness, the order, and regularity of these schools were truly admirable; and I was credibly informed that the habits of the people have been greatly improved since the establishment of these schools at the time of the Republic, about forty years ago. Corporal punishment is very seldom resorted to; but a system of emulation and rewards is constantly exercised.

For people in more independent circumstances

Y. A. G. I. O. G. V. A. T. O.

there is another description of school, called the "part payment" school. Here each child pays about 8*d.* of our money per month, not to the master, but the municipality, and the latter support and control the whole establishment. Strange as it may appear, I found the poorer children, and generally the whole management of their schools, more orderly, neater, and more regular than this establishment. The instruction varies but very little in the two institutions. Both are conducted on the old principle of masters to each separate class, and no attempt is made to introduce the Bell or Lancaster principle. The masters are a much better class of men, and better informed than either the English or Irish schoolmasters in general. Their salary varies from 80*l.* English to 5*l.* The latter sum applies only to some of the most advanced and cleverest of the boys, who are selected as assistants in the larger classes. I think this principle, if carried out still further, would lessen the expenditure, by obviating the necessity for employing so many masters. It would also be a desirable improvement in our Lancastrian schools to allot a small sum, to be expended either in books or other premiums, to the monitors of each class. I have found in some of my own schools in Ireland, a great repugnance shown by the parents to their children being chosen as monitors of their classes. It would tend to excite emulation amongst the boys themselves to attain the situation of monitor, if handsome rewards were given to each person who

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was called to fill that office; and great care should always be shown by the master and the patron of each school to have none but the most intelligent and best conducted of the boys appointed to that situation. Generally speaking, the Dutch people of all classes are opposed to the system of mutual instruction; but I cannot help thinking that this arises from an imperfect knowledge of its principles and effects under an intelligent and active master. I am far from supposing that this is the best system, provided in the first place ample funds could in every instance be procured to pay a sufficient number of intelligent masters; and, secondly, that a sufficient number of really well-informed men could be procured for the office. But both of these difficulties meet you in almost every locality, and are generally speaking insurmountable.

At Leyden, the management of the poor schools is also in the hands of the municipality; but each boy pays one cent per day, about seven shillings a year. There is no religious distinction admitted; and the pastors of each child teach them religion at their respective places of worship, at stated hours, and on days specially allotted for that purpose.

In Leyden university, the students are not bound to follow any particular course of studies or lectures; but each follows the courses and lectures adapted to his intended pursuit in life, whether it be law, divinity, or medicine. The law course comprises, besides the common law of the land, a course of political economy, diplomacy, and the law of na-

tions. It takes five years to complete this course of studies and get a certificate that will enable the student to practise as a barrister. How much more rational is this system to that of eating one's terms at the Temple! There is no religious test required on entering this celebrated university. There are Protestants, Roman Catholics, and Jews here without any distinction. The honours and emoluments, as well as the professorships, are open to all who prove themselves worthy of them by their learning. Monsieur Van Maas, professor of civil law here, was quite astonished when I informed him that religious tests were still insisted on in our two great national universities. "How can that be," said this gentleman, "when the test acts are repealed, and the Catholic disabilities removed?" In this university there are forty Jews, about one hundred Roman Catholics, and five hundred Protestants, all living harmoniously together; and at least as religious and moral in their conduct as the students of either Oxford or Cambridge.

At Amsterdam, the greatest possible attention is paid to the education of the poor. The city maintains twelve large schools, containing five thousand children of both sexes, who are educated together, though of different religions. The population is 200,000. No peculiar tenets of any of the Christian sects are taught in these schools; but on Wednesdays a history of the Bible is taught, and on Saturdays, printed lectures on religion, compiled jointly by the clergy of different persuasions, are delivered to the children; and the clergy give, at stated hours in their

respective churches, instructions to each sect in their own respective doctrines. No religious discussion is allowed in the school. There is a board chosen by the municipality for the purpose of inspecting these schools, appointing masters, and controlling them. The whole management is in this board, and no clergyman of any religion is allowed to be a member of it. This latter regulation was made about thirty years since: until that period the clergy were members of the board, but it was found that religious differences and discussions arose from it, and they have since then been excluded totally from the management. The Jews are not obliged to attend the religious lectures, or the reading of the History of the Bible in the schools. Independent of these "Staadts" schools, there are many private and public subscription and endowed schools, as also schools for payment at various rates, from one shilling to five shillings a month; but the state has but little control over these establishments in Holland. Altogether it must be allowed that education is in a very satisfactory state here; and all classes have not only opportunities of acquiring elementary knowledge, but every inducement to do so at little or no expense; and the higher walks of literature and science are within the reach of persons in very humble circumstances. By every account the results have been perfectly satisfactory. The people are industrious, shrewd, intelligent, and thrifty. Religious rancour is unknown; and there is not in the world a more peaceable, loyal, or laborious

people than the Dutch. Though they are accused of committing excesses in strong liquors, I must say, that during the entire of my journey I never saw one drunken man, nor met with a single beggar, nor a man, woman, or child, that was not comfortably clad from head to foot.

At Utrecht the "Staadts," or town schools, are three in number, for a population of 44,000 souls; and are supported partly by the municipality, and partly by a contribution of from one penny to three pence a week, varying according to the means and the class of the scholar. The payment is made to an officer of the municipality; and this body pays the masters fixed salaries, inspects the schools, and regulates the whole management and internal economy of them. In cases of actual destitution, children are admitted gratis. All school requisites are provided gratuitously by the municipality, as likewise the building, firing, repairs, &c. Persons of all religions attend these schools without any difficulty or collision, and no books are used that any sects object to. Besides these establishments, there are three Lutheran and one Roman Catholic schools, supported solely by voluntary subscriptions. Being naturally anxious to learn the cause of this, I waited on a very respectable Protestant clergyman, who told me that all the schools were well conducted, and that he had no fault to find with the management, or books, or instruction. In the Roman Catholic school there were 600 children; the Lutheran, about 1200; the public mixed, 900. This clergyman likewise informed me

that in the Lutheran and Catholic schools the religion of each party was taught in the schools, and added, "We clergy think it our duty to teach our children in the school, through the master, our own creed; and as this could not be done in any country where there are different religions, we undertake the matter at our own risk, and make collections in our churches to carry out our views."

In the university of Utrecht, persons of all religions are admitted without any test. There is a Lutheran divinity class for such as are destined to become clergymen in that church. The majority of the students are Protestants of different sects; but there are many Catholics, and two Catholic professors, one of them, the professor of medicine, a very eminent man. No difficulty has arisen here from educating persons of all religions together. All sects live harmoniously together.

Besides the schools mentioned above, there are some excellent private schools here entirely supported by the scholars, and a public school for the richer classes, called a French school, established by the municipality, where a higher education is pursued, and the children pay a larger stipend than in the "Staadts" schools. This is a very flourishing establishment, and has a high reputation. There are no boarders in it. The annual stipend is, in British money, three pounds for the junior, and six pounds for the senior classes. They are highly instructed in history, geography, and the French language. There is also attached to this establishment a school for girls, of the same class, and on

the same principles. These two establishments are adapted for the middle classes, and persons not entering the learned professions.

The Latin school here is almost entirely dedicated to the dead languages, and is very similar to the best of the English classical day schools. Some history is taught, but no religion, and very little indeed of the elements of philosophy, or the sciences, or modern languages. This old-fashioned system of the exclusive study of the dead languages leaves young men totally ignorant of many of the most useful and important branches of a practical education, and forces them at an advanced age to commence studies that are very irksome, or to remain in a state of ignorance that must often be very distressing and even disgraceful. There are one hundred and four scholars in this school, and nine professors, including the head-master. With this same staff a much superior education in the same time is quite possible, and in fact is attained in France and other countries. Few young men can ever succeed in studying with success the sciences, or living languages, if they are postponed to a late period; and independent of this radical objection, there is a decided loss of time in devoting six years of the most valuable period of our lives almost exclusively to the study of the dead languages, whereas, under an improved system, these languages might be acquired, as also some of the living languages, the elements of science and physics, history and geography, in the same space of time.

In Holland, the Latin, or as we call them classical schools, are almost exclusively municipal institutions under the control of men, who, generally speaking, cannot be supposed to be conversant with the details of a good education. Hence the vices of the system there pursued, and the necessity of a more strict observance of the law which obliges science to be taught in these establishments. There exist, at present, inspectors paid by the state, who are obliged to visit these establishments and report on their efficiency. In order to make these schools more efficient, it would be desirable that the universities should make their entrance examination more stringent, and insist on a knowledge of science, history, and the living languages, now much neglected by them. On the whole I should say, that classical education is, up to an entrance into the university, nearly on a par with that afforded in England; but the primary education of the people is far superior, far more liberal. This is principally owing to the system of inspection carried on by the government, and enforced by law. Here the inspectors are not thwarted by any municipal authority. The system pursued is this:—the minister of the interior is at the head of, and controls all the public education in the country, including the universities; the whole country is divided into provinces, and each province again into small districts; each province has its commission, composed of the inspectors of each district, and presided over by the governor of the province; the inspectors are all salaried and

appointed by the government, and removable by it: they must reside in their district; they must visit each school at least twice a year. No master or assistant can be appointed without their concurrence, and without submitting to an examination. To each school there is attached a committee nominated by the commission of the province, and recommended by the inspector. On this committee there is no one member *ex officio*: all are chosen from their character and acquirements, and give their assistance gratuitously.

Three times a year the whole of the inspectors meet in the capital of the province, and confer together, under the president of the province, for two or three weeks on the different matters connected with their districts. Each inspector reads a written report of his district, and makes any suggestions that he thinks fit of either a general or local nature. A general report is then made by this commission to the government. From time to time a general assembly of primary instructors is summoned to the Hague, where each commission sends one deputy from its own body. The schoolmasters, the scholars, and parents can appeal to either the local committee, the provincial commission, or the government itself, in case of any grievance or neglect on the part of the inspectors. The masters of each school are removable at pleasure. There are none admitted as masters without the following formalities: He must have resided in the district twelve months; then procure a testimonial of probity, pro-

priety, and good moral conduct from the competent authorities. Thirdly, he must get a certificate of ability and competence from the commission of education. This certificate consists of four different degrees: the first is never given to any person under twenty-five years of age. The examination is very strict in the Christian religion, morality, history, arithmetic, different branches of science and physics, the method of teaching to write, the general art of teaching and governing a school and inciting or restraining the scholars. If the candidate be very intelligent, twenty-five years of age, and considered by the commission perfectly competent, he gets a first class certificate; the second is given to those who have shown any deficiency on the above points, or to those under twenty-five years of age; the third, to those less competent; and the fourth, to the inferior candidates. The first and second may conduct city and large town schools; the third, village schools; the fourth, are only eligible as assistants. Of course in case of vacancies, the first class are always preferred. Any of the inferior classes may at any future time undergo an examination before the commission, in order to enable them to get a superior certificate. This creates constant emulation and continued study of their profession amongst the masters. Nothing can, by every account, work better than this system; the masters are a very superior class of men, much respected, and the office much sought after. The schools are in every respect working great improvement amongst the peo-

ple; and so well conducted, and so tolerant, that scarce a child in the kingdom that does not attend them. The clergy of all classes approve of the system, though many would prefer, if they had means, to have separate schools under their own control for each separate religion, but they candidly allow that this would not be practicable in a country where there are many different religions, and where sometimes the members of some religions are too few to expect a separate establishment for their instruction. There is no attempt at proselytism, or forcing any objectionable books on any class of religionists*. The most perfect toleration and charity exists amongst every class, and is instilled by the authorities. This is the great secret that binds all classes so warmly to their sovereign in this country. The whole success of this admirable system is allowed on all hands to have been produced by the inspectors, and the different checks, as already described, on their conduct and activity. Two facts speak trumpet-tongued on this point: the first, that though no law binds parents to a compulsory attendance of their children, yet nearly all children attend the schools; the second is, that prior to 1806, when the present system was in-

* The government has recently addressed a circular to the clergymen of all persuasions in the kingdom, relative to religious instruction, to know if the rules of the schools are attended to on this point. All expressed themselves as satisfied with the results, and agreed to the separation of the religious and literary instruction that is adopted by the schools.

roduced, no country was more lamentably deficient in education amongst the poorer classes, and the title of a Dutch boor was a bye-word for stupidity and brutality: it is an epithet, in a national point of view, not by any means applicable at the present day. The great object sought by the inspectors in Holland is not to increase unnecessarily the number of schools, but to have none but good schools, as they very properly consider that it is better to have no school than an inferior or a bad one. When a vacancy occurs in any school, a competition and new examination of the candidates take place by the local inspectors, who must certify his competency previously to the appointment of the master by the local committee. Where schools, from the great poverty of the district, are not capable of supporting a proper establishment, the government, through the inspector's recommendation, and sanctioned by the commission, give aid in support of the school. The different schoolmasters of each district are bound to attend, at the inspector's desire, in conference together with him once a year at least. In some of the best schools, an approach is made to the Lancastrian principle, by encouraging the cleverest of the children to hear certain lessons; and some of the very superior boys get small gratuities to continue as assistants. These ultimately are the persons who go to the normal schools, and from whom the most of the masters are selected. In all the schools, a general examination takes place yearly; promotion and premiums are

bestowed on the most deserving of the scholars. On his leaving school, the most distinguished get certificates of merit, which answer as an immediate recommendation for employment by some respectable person.

As to the normal schools, there are two in Holland ; one at Harlem, and another at Groningen. The first is an exclusively government establishment, and entirely supported by the state. The other is only partly supported by the state, and partly by the "Society of Benevolence." In the Harlem establishment there are forty-two students : they remain four years in the establishment ; but none are fed or lodged there ; some have a fixed allowance for their support, others maintain themselves ; all instruction is gratuitous. The students must attend the public schools of the town as assistants in the school-hours, and at night they get their instruction principally in the art of teaching different branches of education, also in mathematics, physics, history, geography, algebra, music, &c., &c. ; also the history of the Bible forms a prominent part of this instruction ; and morality is explained and impressed on the students on every occasion. The students, by frequenting public schools, have daily opportunities of practising the lessons they receive in the evening ; thus practice is joined to theory, and both combined with a superior education. None are admitted to this establishment without a certificate of competency and character from the

inspector of the district where the student resided ; and, secondly, a probation of three months in the establishment to study his capabilities, talents, moral character, &c. The whole cost of this institution is about 800*l.* per annum, including allowances to students, buildings, books, masters, &c.

In most of the towns, and all the cities, of Holland, there are intermediate schools, where the children pay a small stipend generally every day on entering the school ; this contribution varies from half a farthing to one farthing of our money. The general rule is, if the child does not bring the money, that he is sent back for it ; and in all the schools I visited, I found another good rule, namely, that no child is admitted to school after the classes commence business. The intermediate schools, in point of instruction, differ scarcely at all from the other primary schools. Any child that absents himself six times is dismissed. All schools of every description are under public inspection by the government authority ; and in all the schools the greatest pains are taken to encourage the industrious by rewards, by presents, by premiums of books, clothes, &c., by promotions, by public honours, by examinations, followed by distinctions and by certificates of conduct. The general punishments are, confinement in play-hours, getting extra tasks, standing up alone in the school : corporal punishments are very rare, and used in only extreme cases by the head-master alone. Cleanliness and order

are most minutely attended to in every particular, and no dirty hand or face is ever met with in these establishments. In this respect, and in general neatness, the Dutch are an admirable example to the whole world.

Attached to the primary schools I found almost invariably, in the large towns, an evening school open to adults for two hours every night, where the scholars are taught any of those branches of education they are most in want of for their trade or occupation. These evening schools are generally gratis, and also under public inspection.

Now comes the great question, what is the result of more than the third of a century's experience of this admirable system of public education? I have no hesitation in abiding by the result of this only fair trial given to this system in Europe for so long a period. Inquire of Catholic, or Protestant, or Jew, of the nobleman, the ecclesiastic, the magistrate, the senator, the merchant, the manufacturer, the mechanic, the farmer, the landlord, the tenant, or the labourer—all, all will tell you, with pleasure in their eyes, that all are satisfied that the people are greatly improved in their habits, that they are peaceable, loyal, tolerant, content. Certainly the merest stranger or commonest traveller must observe with pleasure the whitewashed cottage, the elegantly cultivated garden, the painted windows, the sanded floors, the milk-white furniture, and the tidy comfortably dressed peasant. And an Irishman will naturally ask,

with a sigh, when will his own countrymen, from the highest to the lowest, follow the noble example of Christian charity and national improvement that is here held up to them at their own door? When will the madness of party be laid aside? When will men unite in improving their country, educating her people, and thereby strengthening the security of life and property by the firmest of all ties, that of interest and affection? How much a more rational manner to govern a country by such a system than by prisons, by police, by coercion, by persecution, by penal laws, and standing armies! Even in a financial point of view, how much more economical to govern by the mind than the bayonet!

The three universities of Holland are under the control of the government, and under the direct management of a body called conservators, appointed by the government for each university, but *not members of the university*. They nominate two persons to the crown for each vacant chair; the crown selects; they visit the collections, the libraries, buildings, &c.; they see that the laws, the orders, and rules of the government are strictly attended to, that the professors attend to their several duties, and they arrange the financial resources of the universities. These persons are selected, not *ex officio*, but solely with reference to their talents, stations, character, and devotion to literature and science. They receive no salary, but are allowed for some trifling expenses incurred in

the performance of their duty. They have under their direction two paid officers, namely, a secretary and administrator. To each university there is a rector appointed annually by the king, from amongst the professors. He is at the head of the university, presides at all the meetings, and is charged with the discipline and the internal arrangements. He is assisted in this government by the senate, which is composed of all the regular professors of the university. The conservators are bound to meet twice a year at least, and to make regular reports to government of every thing they think useful, or necessary, or important, connected with the university. There are attached to each university, several annuities, or bourses, for the encouragement of learning. These are likewise under the regulation of the conservators, who take care that they are not made sinecures of, as from time to time they make such alterations in them as they find beneficial to the public interests of letters. There are no drones, no learned epicures living in idleness and luxury in these institutions; all are amply provided for, but all must work; and as a great part of their resources are acquired by fees of students attending their lectures, each professor has continually acting on him the double motive for exertion—his fame, and his pecuniary emoluments*.

How shocked will Oxford and Cambridge be to

* The rector has both emoluments and patronage attached to his office; the senate present annually four names to the king for his election, and each faculty takes it in turn.

learn how these business-like Dutchmen manage their affairs : even their universities are governed by common sense, and solely with reference to the interests of the public ! How provoking !! What a dangerous example !!!

PRUSSIA.

BONN "STAADT'S SCHOOLS."

There is a splendid building here appropriated to the education of the poor ; it is divided into six schools, three male and three female.

First class contains children from five to seven : they learn the alphabet, spelling, writing on slates, and the first rule of arithmetic.

Second class children, from seven to nine : learn writing, arithmetic, reading, singing, bible history, drawing, grammar.

Third : the same, also history, religion, geography, globes ; these remain until fourteen years of age.

There is one master to each class, and a mistress to each female class. In the female school they are taught to sew, to knit, to spin, and cut out clothes. They get work from the town, and each girl gets the full price of the work she does. Each master gets about 30*l.* English money, per annum, and his lodging, firing, and light in the house. This establishment is very well conducted ; the

children pay nothing ; the writing is excellent. They copy in crayon designs for furniture, for carpenters' work, and ornaments used by several trades ; also flowers, &c., which were all most creditably performed. Punishments were rare, and then only of a moderate kind, such as to get off by heart some lines of poetry, or confinement during play-hours : in extreme cases, such as theft, corporal punishment is resorted to. There are only five weeks holidays allowed in the entire year, and at different seasons ; but half holidays are allowed twice a week : on the other days the children are in the school at study for six hours, three in the morning, and three after dinner. Boys and girls are educated separately. There are no annual subscriptions to this school ; all is paid for by the municipality, and every child is compelled by law to go to school at five years of age, and remain there till fourteen. Each district, called "gemeinde," is obliged to provide a school for the poor gratis, if there be found eighty scholars to attend it ; and if not, then the adjoining "gemeinde" is bound jointly to educate the children of the two districts. The master must always be of the same religion as the majority of the children, but is immediately dismissed if he should interfere with those he differs from in religious matters ; the minority attend the place of their own worship under the care of some one deputed by the master or the parents, at least once a week, whilst the master instructs the majority at the school in religion. All

school requisites are found in the schools ; no charge of any kind is made.

Besides these "Staadts" schools, there are the "Burger" schools, where the more independent citizens send their children, and pay from six to twelve "groschen," or in English money, from 7*d.* to 1*s.* 2*d.* a month. The people feel a pride in being able to send their children to these schools, and there is much emulation in the masters who conduct them.

Then come the schools of the higher and richer classes, called "Gymnasium," where the children are prepared for the universities and commercial life. No one is taken into the Prussian civil service, who cannot produce certificates of having passed regularly through one of these seminaries. The course of studies is very strict and more extensive than in our public schools, such as Eton, &c. Music and drawing are considered essential, particularly the latter ; also the French language, history, geometry, and the elements of chemistry, geology, and the practical sciences, besides Latin and Greek.

In order to enter the university of Bonn, it is necessary for a youth either to produce a certificate of having made his studies *with credit* at one of the "gymnases," or public schools, or he must submit to a strict examination in the books used at these seminaries. But there is no religious test required. Some of the professors are Protestant, and some Catholic. There are Catholic professors of divinity,

and Protestant ones also. Dr. Strahl, professor of statistics and some of the modern languages, at this university, told me that "the university did not consider that Protestants and Catholics were two *different* religions, but mere branches of the same religion, having the same origin, the same fundamental principles; and above all, that charity to one another was the foundation of both; and they lived together in the greatest harmony." This gentleman takes a few young men as private pupils, who live with his family; the terms are about sixty pounds a year. He is an excellent linguist and historian; he speaks English, French, Russian, and German fluently.

The great impulse given to education in Prussia, by the present enlightened monarch, will appear from the facts, that he has established three new universities since his accession to the throne, and has laid down a rule in all the government offices, that no matter what the rank of the party may be, no promotion to any of the more lucrative offices in the state are open to any man, who has not passed through one of the universities with credit.

There are now in all eight universities in this state, which contains 13,500,000 inhabitants. In Ireland, with 8,000,000, there is only one university, and that confined in all its honours, and emoluments, and professors to Protestants, whilst seven-eighths of the population are Catholics. How different the conduct of Protestant Prussia in her universities. Here the Protestants are upwards of 8,000,000, and

the Catholics scarcely 5,000,000 ; yet in these establishments I find by official returns, that the average of divinity students was, in 1834, as follows—

In all the universities taken together, out of every thousand students,

160 were Protestant divines, natives,

140 were Catholic divines: and in other studies there were

212 law students,

116 medical students,

120 philosophy students,

152 foreigners, students of these different subjects also, and members of different religions.

1000

The whole of the universities admit persons of every religious profession without distinction. There is an average attendance at these institutions of about 5,500 students, including foreigners; of natives, 4,700; which makes an average, in round numbers, of one person in Prussia out of 2,885 attending the universities; and as it is calculated that one person of every one hundred is a man in his twentieth year, this would give for all Prussia 135,000 persons of twenty years of age; and if we divide the number of students, 4,700, into this, we have 28 and a fraction. This would prove, if all the students were twenty years of age, that 1 out of 28 and a fraction were educated at the universities; but only two-sevenths of the students are of this

age, therefore we must multiply by seven and divide by two, which yields 99 and a fraction; so that we can safely say that one man out of every one hundred passes through the universities of Prussia.

All these returns are extracted from the government authorised publications, which are made out annually with great care.

The cost to the state for the universities is 465,000 thalers, or about five farthings per head for the whole population of the kingdom. The number of professors is 489: the number of students being 5,500, it follows that there is one professor on an average to every eleven students with a fraction; but it must be understood here, that this includes all kinds of professors, both private and public. The average pay of each professor is 716 thalers, Prussian currency, which makes in English money, about 100*l*. But some receive 900 thalers, and others less than half this sum.

Besides the universities, there are in Prussia five Catholic seminaries, destined for the education of the Roman Catholic clergy, and supported by the state; these are at Trier, Paderborn, Pöplin, Posen, and Gnesen. These institutions are each suited to the demands of their own localities, and correspond to the bishops' seminaries at Carlow and Waterford, in Ireland. No degrees are conferred there, and no professors endowed by the state for either law or medicine.

Next in rank to these seminaries are the gymnasium and lycées; of these there are one hundred

and forty, having 1,490 teachers and 26,000 pupils, or about 17 pupils to every teacher. The middle schools ("mittelshulen") amount to 840, having 2,820 teachers of both sexes, and 103,560 pupils of both sexes. The males and females are educated separately in all these schools. The proportion of teachers to pupils is thus 1 to 37. The number of children frequenting the primary schools is 2,235,359; of these, 1,159,439 are boys, and 1,075,925 are girls. This gives an average for the entire population of 1 in 6 actually attending school, which is far higher than most other nations in Europe; and, if correct data could be procured in England, I am afraid would double the attendance there. In France, by M. Guizot's report in 1833, the attendance there was 1 in 19 persons. In Prussia, the number of these primary schools is 22,450, and of teachers, 25,490; thus averaging about 100 pupils to each school, and about 87 pupils to each teacher. All the universities, seminaries, colleges, and schools of every description, are under the control and inspection of the government. There is a minister of state, called the minister of public instruction, who has this department alone to attend to. Under him there are, in the ten provinces into which the kingdom is divided, inspectors in each province; and each province is subdivided into departments, circles, and parishes. Every department has its own board, and its local inspectors in every circle, who reside in the most populous and central positions. All parishes have

again local committees and inspectors. There are besides these, a school counsellor to inspect the boards, and committees to report to the government for each province, and control the local inspectors and schoolmasters. All parents, masters, and others, employing children, are compelled under heavy penalties to allow a sufficient time to their children for their education, and to send them to school at five years of age, where they must remain until they accomplish the regular course laid down for all the pupils. Books and other necessities are provided for the poor. The school-house is provided, where necessary, at the expense of the district or parish it is attached to. It must be airy, large, and commodious. Great care is bestowed on cleanliness and order. Each district supports its own school by a local tax, under the orders and management of the local committee. Some districts have charitable funds and property of their own for this purpose; and in all districts, those who can afford it are compelled to pay a small stipend for each child; but the poor are admitted free. There are collections, models, &c., for the study of natural history, drawing, geometry, geography; and in the rural districts, experimental and model gardens are attached to each school. In these latter schools, lectures are given on rural economy, gardening, &c. Sacred music and chorus singing are taught to all. An universal prayer is read at the commencement of study, as also at the termination of it. All the pupils are taught religion, reading, writing, arithmetic, his-

tory, the elements of drawing, natural history, geometry, physics, mechanical and agricultural experiments. Examinations take place quarterly by the inspectors, which are open to all persons, and a report is made in writing of the progress of the children, the state of the school, and attention, abilities, &c. of teachers. Parents never pay the teachers, but always the committee, where payment is required of them ; and all complaints are to be addressed to the committee, the inspector, or the boards. Nothing can be more perfect than this organization and mutual system of checks and control. A regular registry is kept, not only of the name, but of the attendance, character, proficiency, and habits of each pupil. This is handed to the police, who immediately discover all absentees, by comparing it with their own registry of all inhabitants in their district. The teachers are all appointed by the committee and inspector, who must agree in every appointment. These schoolmasters must undergo a very searching examination, or produce a certificate of having made their studies with credit at one of the seminaries for schoolmasters, which are supported by the government.

Of these seminaries, there are now forty-five in Prussia, called normal schools. It is from these schools nearly all the teachers are supplied to the elementary schools. No young man can enter these seminaries without procuring proper certificates of having passed through an elementary school with credit, diligence, care, and good moral conduct. They are

taught the higher branches of mathematics, arithmetic, history, physics, &c. ; also music, drawing, the art of teaching, and a thorough knowledge of religion. They also receive a more complete knowledge of all those branches of education, that they must afterwards teach in their schools. All persons of all religions are eligible to these seminaries, and it is left to the local committees to choose those they may approve of. It is to these admirable establishments that Prussia is indebted for the enlightened class of men who conduct her public schools.

Every student, previous to entering the universities, is to undergo an examination by a council of one of the lycées or gymnasiums, specially appointed for this purpose. He must prove by this examination sufficient talent for comprehending the lectures and studies in the university. He must show a general knowledge of German literature, prosody, and poetry. In Latin, he must be examined in Cicero, Sallust, Livy, Virgil, Horace, and Roman history—this part of the examination is conducted in Latin. In Greek, Homer, Demosthenes, and Thucydides. In French, any of the principal authors may be proposed for examination. In religion, a general examination in morality, the Christian dogmas, history of the church, the Bible and New Testament. In mathematics, algebra, geometry, logarithms, and trigonometry. In geography, ancient and modern ; history, ancient and modern, particularly that of Prussia ; the physical and political state of the world. In natural history, the

general divisions, descriptions, and classifications adopted. In physics, the primary laws of bodies and mathematical laws. In philosophy, the elements of psychology, logic, the formation of ideas, judgment, definitions, syllogisms, the division and demonstration of ideas. Theologians must, in addition, be able to analyze the old Testament in Hebrew. If, on examination, the student is found well-informed, he is admitted, and gets a certificate of immatriculation. If only partly informed on these subjects, but his talents show him capable of improvement, he is declared "not ripe," but is admitted on a separate roll of the university as a philosopher; but he is not admitted as a student for the learned professions until a future examination. In case of utter inability and ignorance, the student is totally rejected. The whole of this examination is conducted by persons totally unconnected with the universities, and having no interest in the student entering them. It is of a much more severe and searching nature than that of our universities, and requires much more information previous to entering, than most of our young men carry away from them. In Germany, the average age of a student entering the universities is about nineteen. On quitting the university, each student receives a certificate of the studies he pursued, the lectures he attended, his attention, character, and progress, as also the character he received on entering the university from the gymnase or lycée.

The following is an extract from the law of

Prussia, promulgated in 1819: "Difference of religion alone ought not to be an obstacle to the creation of a country school, but in forming a school of this kind between Protestants and Catholics, regard must be had to the numerical proportion of the different creeds, so that the master may be of the same religion as the majority, and where possible the assistant-master should be of the same profession as the minority." There are other rules and orders of a similar description, which guarantee to all sects not only freedom of religion, but express religious instruction to each by their own pastors, or other persons of their own communion. The total cost of the primary schools is 375,000*l.* British, per annum, raised off each subdivision for its own particular school. This sum includes the payments made by the scholars, and all local funds applicable to this purpose. The government contributes out of the general funds of the state about 12,000*l.* a year of this total, for some districts that are too poor to support efficient schools; and all the great Normal schools are supported by the state at an expense of about 14,000*l.* yearly, thus making a grand total of near 400,000*l.* per annum for the instruction of about 13,000,000 of people, which would amount to a tax of about 7*d.* per head. What nation would refuse such a tax for such a purpose? But in all countries, and more particularly in England, there are already large funds for this purpose in most localities; and more than this amount is already squandered in a very imperfect system,

without uniformity, control, or beneficial results, and often to the entire exclusion of any religious or other instruction to the poor.

GRAND DUCHY OF NASSAU.

Wiesbaden poor school is a splendid establishment, supported by the municipality on much the same principles as those in Prussia, as detailed in the Bonn schools: it contains 1,300 children of both sexes, in twelve different classes and separate rooms; the males and females are in separate schools; the indigent, or destitute, pay nothing; those who can afford it pay merely one florin, about 1*s.* 8*d.* a year, for pens, ink, and paper. The course of studies is—First class; to learn their letters, figures, their prayers, and spelling. Second class; reading, arithmetic, writing on slates, and verbal information on various familiar subjects, such as are treated of in our little publications for the use of children: this creates a spirit of inquiry and reflection. Third class; arithmetic, grammar, writing on paper, geography, religion, and singing from notes. Fourth class, and succeeding ones; religion, history, drawing, copying designs in furniture, in architecture, &c., and the rudiments of mathematics. The girls are taught to work at the needle, to embroider, knit, &c. There are twelve masters paid various salaries, commencing at about 15*l.* of our money, and

advancing according to length of service up to 45*l.*, and they all have firing allowed them. I calculated that the expense of this school is about 700*l.* per annum British. It is raised by an annual tax on the town and a small district immediately adjoining it. About four-fifths of the children are Protestant, the rest Roman Catholics. The masters are ten Protestant, two Roman Catholics. The masters teach the Protestants in the school at stated hours their religion, when the Roman Catholics retire into a separate apartment, and their clergy come twice a day to instruct them in their religious duties: each child is obliged to attend the religious instruction that corresponds with the religion of his father. The Roman Catholic masters give no religious instruction in the school. The masters are appointed by an officer of the government. All parents are obliged by law to send their children to some school at six years of age, and keep them there until fourteen, for six hours every day, under heavy penalties. The children are examined every six months by a person deputed to inspect the schools by the municipality, and also subject to the control of the government. Besides this, a regular register is kept of the attendance, conduct, progress, and character of each child. Corporal punishment is very rare; confinement and extra tasks are the usual punishments. No division or disunion has arisen on religious subjects in these public schools. If a child should absent himself, his parents are immediately informed thereof, and the cause is noted.

There are two half-holidays every week : three different intervals of recreation are allowed every day.

There are five other schools in this town, where payments vary from 2*l.* to 4*l.* a year for instruction. There are also two infant schools : one, where the children pay about one-half a farthing a day, which contains ninety children from three to six years old ; another, where there are about thirty, and each pays about 1*l.* a year of British money. Besides these there are schools for the upper classes, called "gymnasium," where all the modern languages are taught, besides Greek, Latin, history, the sciences ; also music, fencing, drawing, &c. These schools seem to be admirably conducted, and the boys are very proficient for their years. That absurd system of devoting their time to one or two dead languages almost exclusively, is entirely abandoned here, and laughed at very properly as a remnant of the dark ages, when learning and the sciences were but little cultivated and less understood. It is melancholy to think how many years of our lives are thrown away in learning, by a tedious and antiquated process, one or two dead languages that might be learned in half the time, and which are often of little use to us in our commerce with the world and progress through life.

M. Leyendecker's school on the Pestalozzi system is an admirable institution. I found here the son of an old friend (Lord S. L.) ; he is a most intelligent boy, and speaks three languages fluently,

though only eleven years old. In this school there is a collection of minerals, also of birds, and specimens of plants and flowers, with sets of mathematical and chemical apparatus for the use of the scholars, all of which are in constant use in the school ; and experiments in physics and chemistry are shown and explained to the boys. Every boy learns music and drawing, also the use of arms, both sword and gun. The greatest attention is used in improving the boy's attention and his memory. Languages are taught, not by commencing with the grammar and dry rules, but by easy translations given *viva voce* to the pupil in a conversational manner. He is examined afterwards to see that he retains the information given, and finally he is obliged to commit it to writing. After some months' exercise in this way, the pupil can readily hold an easy conversation in the language, and by degrees the grammar of the tongue is explained. In arithmetic, the first rules likewise are all taught orally, and no book or writing is used ; mental arithmetic is the principle pursued. Geometry is likewise commenced in the same manner. The great advantage of this system is, that the intellect and memory of the boy are constantly developed and exercised. The terms of this school are about 35*l.* a year.

The agricultural school here has been established several years. The students pay forty-four florins, about 3*l.* 10*s.* a year for instruction. They live with friends, or wherever they can provide themselves. The payment includes stationery, books, and ex-

penses of a collection of minerals, and of experiments constantly making in chemistry, &c. The students attend the winter six months at the school, and in the summer they go to farmers' houses selected by the head-master in order to receive practical information. Some of the students are farmers' sons, some the sons of proprietors. There is a farm of one hundred and twenty acres attached to the establishment, where the different courses of English, Dutch, and German rotations are pursued, and new experiments are constantly tried on a small scale of every kind; there are cultivated here likewise vegetables and fruit of various kinds. This establishment was founded and is carried on by the Grand Duke of Nassau; he pays the masters, gives the ground, and supports the establishment which is under the management and control of the minister of the interior. The following is a prospectus of the establishment and a plan of the farm*.

Fruit trees, tobacco, mangle-wurtzel, hemp, potatoes, and all kinds of corn crops are cultivated in great perfection through this state; it is also famous for its wine, some of which sells as high as 12*s.* per bottle in the growers' cellars.

The masters of all the schools, supported by the state, are educated at a "normal," or training school, at Idstein, under the immediate control and management of the government; and no master gets an appointment until he goes through a regular course

* See the translation in Appendix.

of instruction of a superior description in this establishment. I found these masters in general very intelligent men, very well informed in history, geography, mathematics, the best authors of their own language; and many of them speak French, and some of them English and Latin.

FRANKFORT ON THE MAINE.

Here the schools are still more numerous than any place I visited as yet; they are all under the inspection of the city authorities. The "model school" has both Catholics and Protestants in it; the former, the minority, go to their religious instructor three times a week; the latter are taught religion in the school at specified hours, and apart from the other children. This school is supported by funds raised several years ago in the city, and a sum of forty florins a year, about 3*l.* 10*s.*, which is paid by each child: it contains about five hundred of both sexes, has fourteen masters and four mistresses. The education is of a higher description than the poor schools, and includes religion, natural history, the sciences, modern languages, mathematics, drawing, singing, &c.

Besides the model school, or pattern institution, there are ten other public schools for children over six years of age; five Protestant, and four Catholic, and one Jews' school: they contain about three thousand children, and are under the direction of

the city authorities. Each child who can afford it pays two florins a year, and none can be exempted from payment without a certificate of inability signed by a magistrate. The two florins are paid into the city funds, and all expenses, including the masters, are paid by the city. There is a committee of the magistrates and city authorities to regulate, control, and inspect the schools. In one of these schools that I visited, there were eight hundred and fifty children conducting themselves with great order, were very cleanly in person, and receiving an excellent education, including music and drawing.

Besides these schools, I visited one of the two infant schools, containing two hundred children from two to six years old. They were taught to reckon by an amusing plan of having a stand containing ten iron rods, and each of these rods containing one or more nuts run on it; and one child asks the other how many nuts he would like, the other counts the number in presence of the class. They are also divided into classes, and the eldest in each class counts out the toys to the others, and each child on returning them is obliged to count them back to the head-monitor; this gives them habits of order and regularity. They are all taught to chaunt the hymns and also some national airs. They are thus amused and instructed at the same time, and kept out of mischief, dirt, and bad example. They come very early in the morning, and remain until late in the evening

according to the season of the year. Each child brings one cruitzer* with him or her, and gets a meal of soup and brown bread at midday†. The city pays all other expenses. The "Armen Haus," or Orphan House, has another school in it, also admirably conducted. Two hundred children are fed, clothed, lodged, and educated very well. All orphans and children of paupers and soldiers are received here and fully supported until they are twelve years old, when they are apprenticed out to trades. The girls are taught to cook, wash, spin, sew, and make their own clothes. I saw them all at dinner, and was delighted with their order, cleanliness, and manners: they had a good soup filled with vegetables of all kinds, and rye-bread; they get twice a week a small piece of meat along with this. In the morning the younger children get bread and coffee; those over nine only bread. In the evening they get bread and some weak beer. They look very healthy, and the whole establishment is a credit to this enlightened and intelligent people. There is no religious test; all are taught the religion of those recommending them, whether parent or friend, by their respective pastors.

Land lets in this neighbourhood, at one league from the city, for an average of eighteen shillings an acre; labour is in summer about nine shillings a

* About one-third of a penny.

† See Appendix for a translation of Prospectus of this establishment.

week ; the poorest labourer is well educated for his station.

There are several private schools in Frankfort, some of which are adapted to persons entering the learned professions, others for merchants, &c. French and German are taught in all of these schools, and in general English literature is likewise cultivated, besides the sciences. A taste for music, painting, and the fine arts is always encouraged. Little concerts are occasionally given by the students, and they are taken to visit the public gallery of models from the ancient sculptors, where there are likewise some tolerable paintings of the different schools, both ancient and modern ; some of the latter do great credit to the Frankfort school of living artists ; and the ceilings are particularly curious, as well as the arabesques copied from the antique, by the same.

The taste and civilization of the people is visible in almost every department. In their gardens, houses, manners, information, and habits there are evident traces of a sound education. Music is much cultivated by all classes ; and through this part of Germany there is no considerable town, or popular watering-place, that has not its concerts and opera. The orchestras are invariably good, and though a Grisi or a Rubini may not be found in every town, still there is much to please and to delight society. How much preferable to the gin-palace are such amusements for the people ! I have now before me a

play-bill, giving the prices of admission to one of these operas at Wiesbaden, where the music, vocal and instrumental were very good, and the admission to the gallery was only four-pence, and to the best places but half-a-crown.

The "gymnasium," or high school at Frankfort, was founded in the sixteenth century, by a decree of the senate, which stated, that "it would be desirable to find a wise, honest man, of good conduct, in order to accustom children to study; and that he should get the pay of a soldier, but that the city should keep a soldier the less on this account." How desirable it would be to see other states follow this wise decree; and well they might keep "a soldier the less," if they trained up the people in moral and religious habits by giving them a sound education.

GRAND DUCHY OF BADEN.

In Heidelberg, there are eighteen public schools under the management and control of the state, besides the university. This university contains a very fine library of ancient and modern works of every language, besides some valuable and well-preserved manuscripts, in all about 120,000 volumes. The students, and even residents, are allowed to take these books, under certain restrictions, to their own houses. The present number of students

is seven hundred and ten ; they are of different religions, and of nearly equal numbers, Catholic and Protestant : there is no religious test. The great majority of the students are studying law and medicine ; it is considered celebrated for its professors in both these professions. There are four Protestant professors of divinity, but no student is compelled to attend their lectures. The other professors are nearly equally divided, half Catholic, half Protestant. All the Catholic divines of this state are educated at Fribourg. At Heidelberg, the honours and advantages of the university are open to persons of all religions. In Germany the students do not enter the universities quite so young as in England or Ireland ; the usual age is from eighteen to twenty. It takes three years and a half at the least to study the law, and five years to go through the medical course of education at Heidelberg. Anatomical lectures cost about 3*l.* for a half year's attendance ; Roman law, 2*l.* for the same time ; and a student who attends all the usual lectures connected with the law will have to pay about 12*l.* of our money for all college expenses. The students all live in the town wherever they please, and can procure board and lodging for about 20*l.* a year. A student who can procure proofs of ability, good conduct, and inability to pay the university fees, is admitted gratis to the lectures and advantages of this university, and is even allowed a small annual stipend to maintain himself. The students do not

all follow the same course of studies; each student attends only the lectures suited to the profession he intends entering, and directs all his studies to that one object.

Of the public schools, there are nine Protestant, five Catholic, four mixed. The males and females are all separated, except in the infant school. The system differs in nothing material from that adopted in the Duchy of Nassau. The city supports these schools, excepting a small stipend paid half yearly by those whose parents can afford it; about one-third in the schools I visited pay nothing. All are compelled to send their children to school, and none complain of it as a hardship. The Catholic and Protestant schools are equally paid for by the city; it is intended to build one large establishment for the whole of the schools.

The middle classes school, called "Hohern burger schule," is open to boys of all religions; they do not enter this until about ten years old, and remain generally till sixteen; it contains now one hundred and eighty boys. A better education is given here than in the common schools; it includes French, Latin, mathematics, physics, natural history, besides the other usual branches of education. The children pay from 1*l.* to 2*l.* annually, which goes to the general funds of the city, and all the expenses are borne by the city. Professor Louis, a most intelligent gentleman, went through the establishment with me; he is the superintendant. Each class

has a separate room and separate master, and much pains seem to be taken with the children. There is besides these schools, an infant school quite free, and containing children of different religions on the same principle as that described at Frankfort. An adult school is also established here, where in the evening mechanics are taught various branches of useful knowledge connected with different trades, and lectures are given on chemistry and practical science. This has been established by the government, and is supported likewise by the city funds; it is working very well, and is an institution well worth imitation by our own government.

A sum of 8,000 florins was voted by the two chambers of representatives unanimously this year, for the education of the people; a great part of this sum goes to the "normal schools," or schools for education of the masters. Here is a small state, containing scarcely 1,300,000 inhabitants, setting England, with her millions of inhabitants and her countless millions of wealth, an example of liberality in religious institutions, in education, and above all in her pecuniary grants for improving the condition of the people, that we may well blush at when we consult the discussions and votes of both our Houses of Parliament during the last sessions.

Carlsruhe has its schools for the poor on exactly the same principle as those of Heidelberg; all children are obliged to attend them, and those not able to pay are paid for by the city: the payment

for the other children varies from 5*s.* to 10*s.* per annum of our money, according to the class the scholar belongs to. Religion is taught separately to each sect by its own pastors; where the number of different religions admit of it, a separate school for each sect is maintained. No school can be established without the license of the government, and subject to its visitation and inspection. There is a committee named by the government for this purpose, which makes annually a report; also lays down rules and regulations for the schools, even to the books to be used. There is a school for infants here on the same principle as at Frankfort. The lycée is an excellent establishment, containing six hundred boys of all ranks and religions. This establishment combines, under one director, the three classes into which schools are divided in this country; namely, a pedagogium, or preparatory school; second, a gymnase, or second class school; third, a lycée, or high-school. The city pays nothing for these schools except for those who cannot afford to pay for themselves. The state pays the masters, provides the building, repairs, taxes, &c. Each boy whose parents can afford it pays from 1*l.* to 2*l.* according to the class he belongs to in the school. Religion is taught separately to each sect. The payments all go to one general fund for the expenses, and the deficiency is paid by the government under the direction of a board, called the "supreme council of education." Boys complete their studies in these schools for all the usual occu-

pations of persons in the middle classes, and are ready to enter the universities when they have gone through the different classes of this establishment. Their course of studies is much more extended than that pursued at Eton, Harrow, or our large endowed schools. It includes French, German, Latin, Greek, mathematics, geography, history, ancient and modern, arithmetic, geology, chemistry, and experimental philosophy; all learn music, drawing, fencing, and gymnastic exercises.

The polytechnic school here merits particular attention. It was established by the reigning Grand Duke of Baden; the building was erected by the state, and is spacious; it contains a collection of fossils, of minerals, of mathematical and philosophical instruments. The number of scholars attending at present is two hundred; the payment is from 4*l.* to 6*l.* a year, but such poor students as cannot afford it, and are destined for professions requiring the information and instruction herein conveyed, are admitted without payment on producing testimonials of poverty and good character: the age for entrance is fourteen years, and the condition is the having passed five years at a gymnase or lycée. The course of education is French, mathematics, engineering, architecture, political economy, commerce, chemistry, physics, practical science, astronomy, drawing, mineralogy, natural history, botany, the elements of sculpture, music. A youth is not obliged to attend all these studies, but only such as are adapted to his proposed pursuit

in life. There are lectures adapted to each profession, not including the three learned ones.

At Baden there are excellent schools on the same principle as at Carlsruhe. French is particularly attended to here. There is likewise a female school, conducted by the ladies of the convent at Lichentahl, who give instruction gratis to the children in all the usual branches of female instruction, including music and drawing. There is not one child here of any class that is not receiving a good education. The great majority of the children are Roman Catholics, but no exclusion on account of religion is permitted, and all are furnished with religious instruction according to their parents' desire.

HANOVER.

The first "normal," or model school for schoolmasters, was established at Hanover in 1754. Most of the German normal schools have taken this as a model for their institutions of a similar character, and admirably has it been found to answer. It is melancholy to see how party spirit and reckless bigotry have combined in England to retard the establishment of similar institutions there, whilst there is no part of the civilized world more in need of good schoolmasters; and so it ever must be until men are regularly educated for the profession. In England, this profession is only resorted to in

general when all other sources of livelihood are exhausted ; and in the majority of cases, those who undertake it are totally unfitted by education, habits, or training for that most important of all offices. In Prussia, Hanover, Wurtemberg, Bavaria, Baden, Nassau, and in the minor German states, in Austria, Hungary, Holland, France, and Switzerland, there are model schools everywhere to be found supported and endowed by the state ; and in most of these countries no man is even allowed to become an assistant in a public school until he has gone through the ordeal of a normal school. Here he is not only taught himself, but he is taught how to teach others by precept as well as example. He is above all, and beyond all, taught never to interfere with the religion of his scholars, and to see that each scholar has the means and opportunity of learning his religion from his own pastor.

Even in that strictly Catholic country, Austria, we see a Protestant theological faculty established in the university of Vienna. Whilst, to the shame of England be it told, that to this day her two great universities are practically closed even to a Protestant dissenter, and still more to Roman Catholics, though these seats of learning were founded by Catholics. Here is a monopoly worse than any of those against which our ancestors fought, existing as a stain on the fair fame of England before the whole learned world, a disgrace to the nation, and a just subject of reproach by the civilized portion of man-

kind. England, that prides herself on her liberality, on her free institutions, excluding more than one-third of her subjects from the benefits of her national universities, and leaving so large a portion of her people dependant for their education on the eleemosynary contributions of the philanthropist, or forcing them to fly their own country, and seek in Catholic France or Protestant Germany the advantages that are denied them at home.

Why not follow the example held out by Prussia, by Holland, and other Protestant states? Even Hanover has far outstripped her in true liberality and sound policy on this most important of all national subjects.

Both Catholic and Protestant states have vied with each other in improving the educational institutions of the people, whilst England (though far behind other countries) still makes this sacred question one of party contention, and generations are passing away in ignorance, whilst we are contending whether Catholics and Dissenters are to be forced to adopt books and forms that their conscientious scruples will not permit them to use. How contrary to the spirit of Protestantism as set forth in the writers and founders of this faith! Freedom of thought, of opinion, was their doctrine; but in England now-a-days all must be instructed in the forms agreeable to the established church, or receive no education at all. Is this the liberty our ancestors contended for? This is odious tyranny in its most odious, and dangerous, and mischievous

form. Talk of papal tyranny! why this is the civil and religious tyranny of a dominant church in its worst of guises.

WURTEMBERG.

At Stütgard, and all through this kingdom, the most minute attention is paid to all the different classes of schools, and they are under the control and inspection of the government. In the gymnasiums, and all the high schools, the expenses are paid and all the masters are appointed by the government. There is every facility given, and inducement held out to persons of all classes to frequent the different schools. In what are called the German, or elementary schools for the poorer classes, each child pays two florins, twenty-four cuitzers a year, about 4*s*. English currency. This goes to the city or municipality fund in each district, and this same municipality pays all the expenses of the school, including books and school requisites.

Where it is properly ascertained by the local authorities that a child cannot afford to pay even this small sum, no payment is demanded. Great pains are taken by the government with the "real schule," and the polytechnic school at Stutgard. The "real" schools are so called, because they are dedicated principally to practical knowledge suited to the middle classes. The dead languages are

taught, but the learning of them is optional. Mathematics, history, physics, drawing, practical science, geography, and French are the principal objects of instruction. There is an excellent collection of mathematical, philosophical, and astronomical instruments; also a collection of minerals and subjects for the study of natural history.

This school is divided into eleven classes, each having a separate master, all under the control of one director. It contains four hundred children: each pays about 30s. a year; but about one-twentieth of the entire school is admitted gratis. The building, a very fine one, was erected by the government. The entire expense of the establishment is about 1,200*l.* per annum. Boys enter this at eight and remain until fourteen years of age. Previous to entering, they must read and write, and know the first three rules of arithmetic. These matters are learned at the elementary schools, where the children go at six and remain till eight. From the elementary schools the children enter the "real schule," or, if destined for the learned professions, the gymnasiums or lycées. In the latter they are prepared for the universities. In the "real schule" the masters are paid from 40*l.* to 80*l.* of our money.

There are infant schools all through this kingdom on the same principle as at Frankfort. There is an admirable Sunday school at Stutgard for artists. It is called "Soutags Gewerbeschule." It is under the management of the head-master of the "real schule." There are six hundred and fifty scholars

in it from fourteen years upwards, and twenty masters. They are instructed in mathematics, arithmetic, composition, writing, the arts, drawing, &c., all without any charge whatever, except learning French, for which about 2s. per annum is charged to those who choose to pay that sum. Designs for the use of different trades, also modelling in wax and plaster are taught.

In the polytechnic school, all branches of science and the arts are carried to a higher degree of perfection, and more scientific detail is entered into in the different branches of mathematics, drawing, engineering, chemistry, optics, hydraulics, and practical science. This establishment is intended principally for engineers, architects, and military men. The payment is from 1*l.* to 3*l.* a year, according to the number of lectures that are attended by the student. The government built the establishment, and have the entire control of it. There is a laboratory, various lecture rooms, collections of scientific apparatus of every description, and in every branch of experimental philosophy. The attendance averages about two hundred and fifty.

At Hockenheim, six miles from Stutgard, is one of the finest schools of agriculture in the world. This splendid establishment owes all its endowments to the king. It was formerly a royal palace, with a domain of about one thousand acres surrounding it; the whole was surrendered to form an agricultural school and model farm. The professors are all paid by the king. There is here the largest

collection of agricultural implements I ever witnessed, from every state in Europe, and some from America. There is a very curious collection of specimens of woods with their bark, roots, and leaves; each kind making a book of octavo size. There are likewise very valuable collections of soils, of minerals, of four thousand different seeds of plants, and various useful and practical, chemical, and scientific apparatus. There is also a library. The art of agriculture is taught here, both scientifically and practically, in all its details and different ramifications. Practical farmers from different countries are employed in the establishment. The stock consists of the best Saxony sheep, two flocks of Merinos, and one of our large Leicester's: they have a few Durham cows; but their principal dairy cows are Swiss bred, which they consider the best for milking. Their cows are never allowed out in winter or summer. Their present number is one hundred and twenty of all kinds; and three rather coarse, but very fine bulls. The Merino sheep are kept in the house at night.

The school consists of two different classes; the one pays about 60*l.* a year of our money for instruction, diet, lodging, &c.; the other class work on the farm, and pay nothing, but on the contrary get some small remuneration, and are instructed, lodged, dieted, &c. in the establishment. There are sons of princes, noblemen, and farmers all receiving instruction together. There is no branch of rural economy neglected here: one part is dedicated to forest cultivation, another to shrubs, a third

to botany, a fourth to green crops, a fifth to corn of all the various varieties, a sixth to silk-worms, a seventh to vines, an eighth to fruit-trees. Besides these there are various other minor divisions, and experiments are made in all the new improvements suggested, and different rotations of cropping tried. Beer is made on the premises from their own crops; sugar, of a very fine quality, is likewise produced from their own beet-root; and a powerful brandy produced from potatoes grown on their farm. They likewise manufacture starch and soap. They make the different kinds of cheese produced in Holland, Switzerland, and England, each very good; their English Cheshire was remarkably good. I have given the Prospectus of this valuable establishment in the Appendix, and I hope that wealthy England, and still more Ireland, may at no distant period follow the noble example set here by the king of Wurtemberg. It is by acts such as these, that he has become one of the most beloved and respected of European princes: it is by acts such as these that his people have become one of the happiest in the civilized world. With about 8*d.* per day (the average wages here) the peasant gets all the necessities of life, and most of those comforts that he aspires to, and is always well clad and lodged; and as far as a foreigner can judge, there is no discontent amongst the body of the people. They are divided as to religion, in a proportion of two Protestants to one Catholic; but are educated for the most part together, each having religious instruc-

tion from their own pastors, and no attempt is made to force any books or regulations concerning religion on either class that their pastors disapprove of. On the whole, this kingdom is a fair example of what valuable political and social effects are produced by attention to the education of the people; for in no country are greater pains taken to instruct the people. There is one university, that of Tubingen, where both Catholics and Protestants live together in perfect amity, and are admitted to all the honours and advantages of its institutions, without any degrading test being required, or any violence done to their conscientious scruples.

At Islingen, or Eislingen, there is a training, or normal school, for masters. No master is allowed to teach in any of the Wurtemberg schools without being trained in this seminary, which is for Protestant teachers, or the other at Jusund for Catholics. At present there are one hundred and fifty young men training here. They remain three years, and enter about sixteen; but there is no fixed age for entering. They are thoroughly instructed in their religion, in German composition, in mathematics, history, geography, statistics of their own country, and have a general knowledge of natural history, of geology, of natural philosophy, of drawing and music. When I visited the establishment I found seven of the young men practising on seven piano-fortes of an ordinary description, but suited to a school of this kind; the sounding board was taken away, and they were so constructed that the sound could scarcely

be heard in the adjoining room. Every one of the masters trained in these establishments are capable of teaching beginners both music and drawing. These sources of amusement are given to the humblest mechanic, which are sure to civilize their nature, soften their manners, and prevent their committing those brutalizing excesses that we witness in other countries. I visited several of their places of public amusement, and I never witnessed greater decorum, and did not see one drunken person. They danced, and laughed, and sung most joyously, and drank their beer or coffee *con amore*, and apparently enjoyed themselves to their hearts' content, without any annoyance to their neighbours, or any act to offend the most delicate lady. Drawing is one of those branches of education that is cultivated here, not only as a source of amusement, but as one that develops the mind, and is most useful to artisans of almost every description. The builder, the mason, the carpenter, the surveyor, and even the gardener and farmer, find it useful on many occasions. By sketching any improvement in machinery or buildings, how much might often be done by even one individual in a large district.

In the kingdom of Wurtemberg, containing less inhabitants than London alone, there is one university, ninety Latin schools, twelve "real" schools, one agricultural ditto, one polytechnic ditto, one veterinary ditto, two normal schools for teachers, one ditto for the army officers, and two thousand two hundred ditto for the people, all under the

management and inspection of the government. Nothing in this important affair, the training of the youth of a nation in the paths they ought to tread, is left to eleemosynary support or to mere chance. The truly benevolent and wise monarch, who rules over this kingdom as the father of his people, thinks it is his first duty to watch over and guide their education. No branch of instruction is neglected; the rich and noble have every facility afforded them, the poor of every grade have every inducement held out to them to facilitate a solid and a practical education in all the useful arts and sciences. The results are most striking to the commonest impartial observer of the habits and manners of the people. Religious acrimony is totally unknown amongst this nation, and there is no throne in Europe resting on a more solid basis, the affections of the people, than the throne of Wurtemberg, which I attribute principally to the enlightened education afforded by the state to all classes.

BAVARIA.

The population of Bavaria is now 4,325,500. The education establishments of the country are as follow—three universities containing at present two thousand one hundred students, nine lyceums, twenty-four gymnasiums, eight normal schools for schoolmasters, seventy Latin schools, three polytechnic schools, thirty-two mechanic schools, six thousand five hundred and eight primary schools

containing 882,835 scholars, which shows that about one in every five of the whole population is actually in the course of education.

Every village has a school in it, or is annexed to another at a convenient distance. The whole country is divided into eight provinces; each province has a commission to inspect, to control, and regulate all matters connected with the schools. There are inspectors appointed by the state to visit schools of every description, the highest as well as the lowest. Annual reports are made to the government of every school in the kingdom, and an analysis of these reports is then made out. The provincial commissions act under a head commission of four persons in Munich; at the head of which is the minister of the interior. And again, under the control of each provincial commission, there are district commissions in every town in each province. Then again, fourthly, there is a special committee for each school, consisting generally of the clergyman of the majority of the children, whether Catholic or Protestant, and the village mayor. The head commission regulates the general rules and orders, as also the general financial affairs connected with education, and has the particular control of the normal schools. The provincial commission directs the district commissions, controls and inquires into their management, receives and digests their reports, as also inquires into all causes of complaint. The district commissions visit all the schools in their district, see that they are properly conducted, and

that each village has a proper school. The local committees, being resident in the immediate vicinity of each school, are expected to have it under their daily inspection and more immediate control. The provincial commissions nominate the masters after a strict examination; and latterly none are appointed that do not qualify themselves at a normal school. The school rate is collected with, and forms a part of the poor rate of each parish. All the poor are instructed gratis, and all parents are compelled by law to send their children to some school from six to fourteen years of age, otherwise they are fined very heavily. All those who can afford it must pay a small stipend for their education, varying in different localities from 3*s.* to 6*s.* annually, and paid generally in four different payments. The Catholic bishop of each district chooses the religious books that his flock are to read, and the Protestant consistory choose those for their persuasion. The books generally chosen by the Catholic bishops are the History of the Bible, the Four Evangelists, and the Catechism.

The whole management of education is thus composed of four different bodies, controlling and checking one the other. First, the chief commission, having a responsible minister at its head and one paid officer, a counsellor of state, and two other members not ecclesiastics; in all four persons. Then come the eight provincial commissions in the principal town of each province, only one of its members is paid, and he must be a counsellor of state.

Then, thirdly, are the district commissions in each town, and including a certain extent of country around. And fourthly, the local committee, or inspectors of each particular school. The three first commissions are all appointed by the crown, and the local committee by the provincial commissioners, who consult the district commission on this and every other subject connected with each school.

The children receive religious instruction in the schools on stated days and hours. Where the pupils are of different religions, the minority are conducted to their own pastor, or some one appointed by him, for religious instruction. This system gives satisfaction to all parties. The Catholics are in about the proportion of three to one Protestant in the whole kingdom. In the education commission there are both Catholics and Protestants united. The most perfect good faith is kept, and no attempt at proselytism is attempted by any party in the schools.

The "*gewerbe*," or mechanic schools of this kingdom, are the principal distinguishing feature of the education system in Bavaria. They deserve most particular attention from a foreigner, as being perhaps the most perfect in Germany, or in the world. That at Munich, which I frequently visited, is united to the polytechnic school in its administration; but forms quite a separate class of students and studies. The boys entering the "*gewerbe*" school must be twelve years of age, and must have passed with credit through a primary school. Previous to entering, an examination takes place in

reading, writing, arithmetic, and the elementary course generally. They remain in the school for three years. The general course of education is arithmetic in the higher branches, algebra, geometry, natural philosophy, mechanics, geography, drawing, botany, natural history, agriculture, modelling of every description, and for every trade. There is a workshop attached to the institution; and a very valuable collection of mechanical tools, implements, models of every kind, such as bridges, carriages, steam-engines, water-wheels, mills, buildings of all kinds, and generally speaking, of all useful machinery. The greatest pains are taken by the director, Mr. Pauli (a most intelligent man, and devoted to science), to have all those under his care instructed in the useful arts, connected with a good practical education, that may develop the mind of his pupils and direct it to inquiry. The whole cost to each scholar is only four florins yearly, or about 6*s.* 8*d.* of our money. The entire expense of the establishment is about 775*l.* British. Of this sum, one-third is paid by the city, and two-thirds by the province. This school contains ninety students, and the Sunday school attached to it contains now two thousand five hundred and eighty-seven adults. All poor scholars are exempt from payment, and are allowed books and other requisites. The professors' salaries vary from 40*l.* to 70*l.* British, per annum. The scholars attend six hours daily. In summer they make frequent excursions into the country to im-

prove their knowledge of, and exemplify the lectures on botany and agriculture.

The number of scholars in attendance at the whole of the mechanic schools of Bavaria is eleven hundred and ninety-seven regulars, and six hundred and forty-two "hospitants," or those who only attend one course of lectures. This is exclusive of the Sunday schools, which contain six thousand two hundred and fifty-six scholars. For all these schools in this kingdom there are two hundred and forty-one professors of every description; thus making thirty-two schools, eight thousand and ninety-five scholars, and two hundred and forty-one professors.

The polytechnic school at Munich contains two hundred scholars, who pay nothing for instruction. The whole expenses, amounting to 2,000*l.* British, are paid by the government. The pupils enter about sixteen years of age, and must have passed three years in the "gewerbe" school, or gone through the regular course of a "gymnasium." The professors are paid from six hundred to one thousand florins (say from 50*l.* to 80*l.*) annually. This school supplies the state with engineers, foresters, directors of public works, architects, surveyors, &c. The present king has laid down a rule that no person shall be employed in any of these capacities, unless he shall have made his studies with credit at this institution*.

* The principal branches of instruction are architecture, engineering, mathematics, mechanics, practical science, drawing, modelling, chemistry, agriculture, and technology.

The library at Munich is conducted on the same liberal principles as all the others I visited in Germany. It is open to the public for six hours every day, and any one introduced by a respectable citizen can have books to read out of the library. It contains near five hundred thousand volumes, a great many very rare and valuable manuscripts, autographs, and curiosities in literature. The catalogue is very complete and elaborate. This library is a most valuable assistant to the student in every branch of literature and science. A new and very handsome building is now nearly completed for this splendid collection of books, and is situated almost adjoining to the new university building here. The whole cost of supporting this library is about 2,500*l.* (30,000 florins) annually, of which one-half is allotted to the purchase of new works, or old ones not in the library. This state dedicates annually 70,000*l.* to education, besides the local contributions of the provinces and their subdivisions in support of their primary schools. The liberality of the present monarch in this point as well as others, and his munificent patronage of the arts, confer the highest and proudest distinction on his majesty. Under his government, Munich has become the head quarters of both painting and sculpture, has lost none of its renown in lithography, and in architecture has few competitors in Europe. Thousands of persons are employed here connected with the arts, sciences, and literature. A new university, a new library, a new palace, new galleries of painting and sculpture,

new churches, schools, &c. are being erected in every direction, and Munich may justly be styled the Athens of Germany. The names of Von Klenze, of Gewtner, of Peter Hess, of Cornelius, of Schwanthaler, of Frauenhofer, will live as long as architecture, painting, sculpture, the arts, sciences, and literature, are respected and admired, as long as genius is cultivated, or the master-spirits of man have a niche in the temple of fame.

It is truly astonishing how much has been done here by an enlightened monarch to improve and civilize his people. With a state very limited, a soil comparatively speaking poor; with few natural advantages, no great harbours, little trade, no sea-coast; with a population little more than half that of Ireland, we see this people making rapid strides in the arts and sciences, in manufactures, in literature, in education, in national prosperity, in every thing that can civilize a people and make them respected.

CONCLUSION.

The few notes I have here penned were intended for my own private use and reference, at a time when education occupies so much attention, and when so many bad passions have been excited, and dangers have been anticipated and exaggerated from the attempt to give all classes in England the benefit of the same system that has wrought so much good in other states. I thought it a duty to see with my

own eyes and hear with my own ears, what the results were in other states ; and I can say, with a safe conscience, that I discovered in no one instance any bad or dangerous consequences flowing from the enlarged and liberal system followed in the various states that I travelled through. I took great pains to inquire and satisfy my mind : I consulted men of all shades of opinion on other subjects, but I found them to agree on this, that marked improvement has taken place in the condition and habits of the people wherever a systematic education has been adopted by the government, embracing persons of every religion without distinction. By it religious animosities have been softened down, and in many instances, particularly in Wurtemberg and Holland, almost entirely obliterated ; and in all instances, the condition and moral feeling of the people have been highly improved. In no one instance could I learn that either discontent or immorality had increased by the spread of education and an improved system. Under these convictions I thought it might be some small aid to the common cause of the public good to throw these details before the thinking portion of the community, totally careless of any personal results, and perfectly satisfied if in provoking further inquiry the truth may be elicited. I am far from thinking that perfection is found in any one of the states I here allude to ; but I am satisfied that England has much yet to learn from many of her neighbours, and that he is her

worst enemy who flatters her national vanity with the idea that other nations and their institutions are to be despised. I willingly allow that in some of the states here mentioned, the people are not more moral or religious than the English nation. My reply to this observation is, that I fear the young men of Oxford and Cambridge are not more moral or religious than the same number of men in the wilds of Cunnemarra or Kerry; yet would any man tell me, that therefore he would not send his son to Oxford! Human nature itself is not perfect, and we blame education improperly for vices inherent in our nature, which education will always soften down if not obliterate. Nothing can be more absurd than to expect perfection in a people because they have received the first rudiments of education, which is all that any people can receive. But how edifying to hear an influential party, which possesses great talent and great power, vilifying and upbraiding the Roman Catholic one day for his ignorance, his neglect of the Bible, and other equally veracious assertions, whilst he himself tells this Roman Catholic that he cannot allow any portion of the common funds or resources of his native land to enable him to read and judge for himself. It is much to be desired that the sacred question of education could be left free from party violence and sectarian animosity, and that all parties could join in contributing to enlighten the people. Nothing can be farther from the truth than

the assertion made by some authors, that the people of Germany do not employ more of their leisure hours in reading than other less educated people. Mere assertions on either side are useless; but one fact alone is necessary to prove the contrary. In the first place, it is only since 1814 that education has had a fair trial in Germany, and we find since then that the average number of publications has increased as follows:—

Previous to 1814 it was 2,000 in all Germany.

In 1816 3,197.

In 1822 4,288.

In 1827 5,108.

In 1832 6,122.

It thus appears that the demand for books has trebled with the spread of education; and it is calculated by literary men and booksellers, that ten millions of volumes are published in Germany annually, that there are fifty thousand authors, and the value of works published is 5,500,000 dollars. The number of booksellers in Leipsic in the beginning of the last century was only twenty, in this year there are one hundred and twenty. No other country in the world can give facts such as these to prove the reading habits of a people. And when we add to this the facts, that no country contains such large and so many splendid public libraries, open to the public at almost all reasonable hours, and always crowded, and that nearly all the books are lent out without any favour to persons of all

classes, no one can doubt that the Germans are the most reading people in the world.

Some repetitions will appear in these pages to the commonest observer; but such were inevitable, when I found nearly the same plan followed in different countries. But I have endeavoured to give details in as concise a form as possible, consistent with a plain statement of what I saw in each instance, in each locality; and I have had more difficulty in abridging and retrenching details, than in any other part of my otherwise agreeable and most interesting inquiry.

APPENDIX.

PROSPECTUS OF THE FRANKFORT INFANT SCHOOL.

THE object of this institution is to give a refuge during the day to children who have lost their parents, or either of them, or whose parents are employed from home; also to those children who reside in unhealthy situations: care is taken to obviate these evils by giving them an airy, healthy room, and free air, also a garden to play in, and some wholesome food. The body and mind are both nourished with suitable food; for the latter, instruction of an amusing kind is conveyed, and games of an instructive nature are encouraged: but above all things, order and obedience are inculcated. The conditions of admittance are, that the parents or friends of the child address one of the committee, who submits the name to that body, and care is taken to select the most destitute, and nothing is paid for the instruction, &c. But the food is to be paid for daily, in order that the parents may not entirely forget their duty to their children; for this purpose each child is to bring with him or her every day a piece of bread and one cruitzer (about one-third of a penny). The money is for the soup given daily at twelve o'clock. The government of the school is by a committee of seven subscribers who visit it, and a matron who resides in the establishment. The committee depute one of their body in turn to visit the school and report to their body. The matron is to manage the economy and servants of the establishment, and to take care that cleanliness and order be attended to. She has the power occasionally to appoint a substitute with the consent of the committee, and she

can also choose twelve women to assist her in inspecting the children, so that two may be able to attend every day for two hours: these latter are not paid, and arrange amongst themselves the time of their attendance.

There are two of these establishments under the committee, each of one hundred and fifty children, each having one matron lodged in the house, who is constantly to watch over the children during the day. Two female servants assist her and are fed in the house. A master is employed for one hour in winter every day to give lessons, and for two hours in summer he is also to remain during dinner-time. The school-rooms are on the ground-floor and consist of two rooms, one for study, the other for play and dining in; they adjoin one another and communicate; they also have separate entrances; there are cupboards for keeping the bread, and pegs numbered for the children to put up their cloaks, &c. The schools open, from the 1st of October to the 1st of March, at eight o'clock in the morning, and the rest of the year at seven in the morning. On entering the school each child is to give the matron one crutcher, and a piece of bread divided into three cuts, one of which is taken at ten, another at twelve, and another at three; the children are immediately dressed in an apron which belongs to the school. Each school is divided into two classes: the one consisting of those under four years of age; this class is taught nothing but to chaunt some hymns together; the other, over four years, have their time divided alternately between lessons and play. On entering the school-room all take their allotted places in their respective classes. Each subdivision consists of fifteen children, and has two monitors chosen by the master; these monitors are to see that each child is in its proper place. The boys are separated from the girls. At nine, the children all assemble in the study-room, when the matron repeats a short prayer and the children chaunt a hymn. After this the younger class retires into the larger room to play, where one of the servants inspects them

assisted by two of the eldest girls of the other class. The superior class remains in the school-room to copy on slates, under the inspection of the other servant, the elementary lesson ordered by the master; the elder girls of this class, who are more advanced, are to knit during this time; the monitors are to distribute the slates, inspect the writing, and give out the knitting. When the task is finished, the children are allowed to write any thing they like, or to draw for amusement on the back of the slates. The servant is to direct the knitting, and teach the beginners. Any child committing mischief of a serious kind is reported to the master on his arrival. After they have finished their writing and knitting, the monitors put up their slates, &c., first cleaning them. The matron from time to time visits the classes to see order preserved, and that the servants do their duty. At ten, they reassemble all together, and each gets a piece of bread; then all the windows are thrown open: at half-past ten, the elder children retire into the school-room, where they are taught, First, The most simple and easily explained truths of the Christian religion, and portions of Bible history. Secondly, Short stories, amusing and instructive, of common life; also of natural history. This information is conveyed in the form of question and answer. Thirdly, Exercises of sight to induce attention and observation. Fourthly, Exercises of memory. Fifthly, Exercises of voice and pronunciation, according to the new method of Schmidt, improved by Stefanie. Sixthly, Mental arithmetic. Seventhly, Singing. Eighthly, Drawing. The master is not bound to follow any written books on these subjects, but to convey his lessons in familiar and simple language, and such as may be suited to the age of the children. Too much is not to be attempted. During these lessons one of the extra-assistants attends to the younger children whilst the servants prepare the dinner. The windows are again thrown open before the dinner for a short time. At dinner each subdivision, containing fifteen children,

has a separate table headed by its monitor. Each class is at opposite sides of the room. The young children, who cannot feed themselves, are fed by the servants and some of the elder girls. On entering the dinner-room, each class enters in separate divisions, each division headed by its monitor, the others following two and two, and the best child in each subdivision is to carry a flag as a mark of honour. A short prayer precedes dinner. No talking is allowed at table. When a child requires more soup, a sign is to be made with the hand. The extra-assistants preside at the junior tables. After dinner all get up at a given sign; then the children get their faces and hands washed: the elder girls are to assist the servants in this operation. Each subdivision is washed separately, and then retires to make way for another. After this, some of the elder girls assist to remove the dinner things, open the windows, and prepare the room for play. Water, and vessels to drink it, are left in a convenient place for the children. In fine weather, the children then play in the garden, and they get different amusing games to employ them; some of these require counting, so as to learn arithmetic. At two, the first class retires to the school-room, and are to be occupied as in the morning. Only three-quarters of an hour is devoted to study at one time. Quarter before three, they go to play and a piece of bread is given to them. At sun-set, the school is closed. In the long days of summer, the master comes a second time to give the same lessons as in the morning and to teach the children to march in regular order.

The children are received into this institution as soon as they can walk; but in case of great destitution, they may be received during the summer months before they can walk, as at that season they do not require so much care. All the children must leave the school at seven years of age, when they are eligible to the town schools. A certificate of character and conduct is then given to them, and in this certificate a notice is taken of their

parents' attention to the regulations of the school. It is the rule in the town schools to pay a small sum, which is remitted when a good certificate is produced from this institution, provided the parents are very poor. Experience proves that this regulation acts as a wholesome check on the conduct of the poor. The general result is, that the children of the infant schools are quicker, healthier, more robust, and regular, than the other children in the town schools.

EXTRACT FROM THE RULES OF HEIDELBERG HIGH-
BURGHER SCHOOL.

The punishments resorted to are reprimands, separation for one, two, or three days, imprisonment, or if found incorrigible, expulsion.

A certificate of conduct is signed every week in a small book that the boy is to take home with him. This certificate is also to notice their progress in each study, and the manner they prepare their lessons at home. Each scholar has a place allotted to him in his class every week, which place is to depend on his attention, conduct, and progress taken together for the week. Masters are enjoined to treat their pupils like their children, with mildness and firmness combined. The children are only admitted in autumn, as it is then the classes commence their course.

The number of masters :—

Four head-masters of classes.

Three branch masters—one French, one English, one the arts.

Three religion ditto—one Protestant, two Catholic.

Two technical ditto—one writing and drawing, one music.

The four first are in constant attendance.

The studies performed in 1838 were, first, in

RELIGION.

The Protestants being one hundred and ten. The first and second class were taught for one hour twice a week the history of the Bible, and to learn hymns by heart. The third class, the dogmas of religion according to the catechism of Baden, and hymns every week, one hour; also, jointly with the fourth and fifth class, the Acts of the Apostles, for one hour. Fourth and fifth class: introduction to the Bible according to the book of Spieken, second volume, and morality according to the catechism, one hour each week; also as before with third class.

The Catholics being thirty-one. First class: two hours each week, introduction to religion, history of the New Testament by C. Schmidt, instruction in penance. Second class: morality, the duty and obligations of man to society, by Stapf, two hours each week. Third class: the different Christian means of exercising virtue, by Stapf, for one hour each week; also, jointly with fourth and fifth class, expounding the Bible and Gospel of St. Matthias, as to faith and morality, for two hours each week. Fourth and fifth classes together: history of religion, the third and fourth period of church history. These lectures are to be committed to writing.

The Jews, being twenty-one, go together three hours in each week to the house of a Jewish professor, who instructs them in the law of Moses, the attributes of the Divinity, and the moral tendency of his laws in perfecting man and making him virtuous; also the Old Testament.

LANGUAGES.

The German is taught the first class eight hours a week, from Professors Roth and Wurst's books on Grammar; they also learn poems by heart. Second class: four hours a week, in composition and writing themes; also in

reciting poems committed to memory. Third class: four hours a week, same as second; also remarkable events in history and natural history are committed to writing, and poetry recited. Fourth class: three hours ditto, lectured from the grammar of Gutzinger, get themes according to the system of Jockel, recite and declaim poems, read history, and learn parables. Fifth class: four hours ditto, grammar of Gutzinger, prosody, a *resumé* of German literature from the earliest period to the present day, from Dintisker von Nodnagel. In the course of the year frequent themes were composed on the most remarkable points of history and physics.

Latin. Second class: four hours a week, learned the grammar of Burchard. Third class: five hours a week, the same, and easy themes and translations into Latin and German. Fourth class: four hours ditto, translations from same, and themes.

French. Second class: two hours a week, learned the book of Monsieur Ahu. Third class: four ditto, same book, and same easy translations. Fourth class: four hours ditto, same book, and themes. Fifth class: the same, and speaking, writing, and composition.

English. This language is not compulsory; but there are two classes: the first, lectures from the book of Doll; the second, Loyd's Lectures, and the Vicar of Wakefield translation.

SCIENCE.

First class: six hours a week were bestowed on the four first rules of arithmetic. Second class: ditto, on same, and compound rules. Third class: ditto, fractions, compound fractions, algebra, the square root; also common arithmetic as before, and book-keeping. Fourth class: two hours ditto, common arithmetic, algebra, and exchange; two hours on theoretical ditto.

Geometry. First class: one hour a week was given to the primary terms and figures. Second class: one ditto, to

polygons, circles, and primary rules. Third class: one ditto, to same and the measurement of angles. Fourth class: axioms, parallels, the Pythagorean axiom. Fifth class: two hours ditto, measuring the space of figures, proportions and resemblance of figures, the elements of mensuration.

Natural History. First class: two hours weekly were allowed for mamiferous animals and birds, according to Fisher. Second class: two hours, for reptiles and fish. Third class: two hours, for insects, worms, and mouscous animals. Fourth and fifth classes: mineralogy according to Hocksteten, botany on the Linnean system.

Physics. Fifth class: two hours weekly, lectured on bodies, their attraction, value, powers; on mechanics; on heat and cold; on acoustics and optics.

Ichnology. Fifth class: two hours weekly, lectured on metals, their composition, use, preparation, fusion, &c.; also other productions of the soil, both mineralogical and vegetable, such as wool, silk, cottons, sugar, wine, &c. &c.

Geography. First class: two hours weekly, on Baden, the capitals and principal rivers of Europe. Second class: two ditto, on a general view of the globe and its divisions. Third class: two ditto, description of each country of Europe, according to Selten. Fourth class: two hours ditto, Asia, Africa, America, and Australia, by ditto. Fifth class: mathematical geography, the motion, seasons, &c. of the earth, the celestial globe, the tides and planetary system.

History. Third class: lectured two hours weekly, from the work of Volger. Fourth class: two ditto, history of Rome, Greece, and of the middle ages. Fifth class: two hours ditto, history of the three last centuries down to the present day; also the history of the French revolution, by Mignet, in French.

THE ARTS.

First class: two hours weekly, drawing straight and

curved lines, simple figures, ornaments for furniture. Second class : two hours ditto, drawing same as first class, also copies of figures from models. Third class : three hours ditto, copying ornaments, drawings of the human body, heads, and sketches from models. Fourth class : four hours ditto, the same as third class for two hours, and two hours learning perspective from Franke's work. Fifth class : three hours ditto, same as fourth ; also landscapes, copying machinery, and various objects from nature.

Geometrical Drawing. Fifth class : two hours weekly, drawing points, lines, planes, cylinders, cones ; also lectures on perspective, by Lambert's rules, reduced to practice by Thibault.

Geographical Drawing. Third and fourth class : one hour weekly, drawing maps.

Caligraphy is taught in every class.

Singing. First class, learn the notes. Second and third together, learn to chaunt. Fourth and fifth, singing in chorus, musical terms and signs, and the different styles.

Gymnastics are taught two hours weekly to all the classes.

PROSPECTUS OF HEIDELBERG SCHOOL OF ARTS.

This school contains two hundred and five students, who are divided into two classes. The first has eighty-three. The second is again subdivided into two divisions, one containing ninety-six, the other twenty-six ; of these, sixty-one learn drawing only, twenty learn other objects but not drawing, and one hundred and twenty-four all the objects taught in the school.

The objects of instruction are the following—

Arithmetic. First class, learn the elementary rules two hours each week. Second class, same and fractions,

cubes, joint accounts, proportional accounts, partnership ditto, and interest ditto.

Geometry. First class: one hour weekly, learn how to divide and measure straight lines, the nature and qualities of angles, triangles, quadrangles, and the area of figures.

Geometrical Designs. First class: one hour weekly, learn design, projections of points, lines, planes, and simple bodies. Second class: ditto, projection of composite bodies, and how to divide them.

Book-keeping is taught one hour weekly, from Bleibtren and Offterdinger's works.

Mercantile Themes. First class: two hours weekly, compose receipts, undertakings, securities, assignments, accounts, certificates, letters, powers of attorney. Second class: two hours ditto, same as first; and two hours ditto, contracts, agreements, indentures, bills of exchange, bills of lading, bonds, deposit-receipts, surrenders, and mortgages.

Orthography is always explained and attended to at every lesson.

Trade Instruments and *Technical Terms* are explained for one hour weekly.

Chemistry. Lectures are given for one hour weekly on heat, on chemical phenomenon, oxygen, hydrogen, coal, sulphur, chloride, mephitics, alkalies, &c.

Architecture. Lectures are given three hours weekly on the construction of walls, the preparing of stone, making of stairs, vaults, arches, and cornices; the planning buildings, façades, and internal distribution of buildings; intersections of bridges; the erection of wooden buildings, ridges, projecting-roofs, furniture designs, floor designs, cornices, banisters, doors, locks, hinges, bolts, &c., window-stools, windows, carriages, columns, and ornaments.

Modelling. Two hours weekly are allotted to modelling cornices, girdles of stone ornaments, column bases,

and capitals, arches, niches, bridges, straight and circular stair-cases.

Drawing. Designs are copied of ornaments from patterns and plaster casts, of various ornaments and articles of luxury, also of tools, instruments, and machines; likewise of mathematical forms.

THE DUCAL NASSAU AGRICULTURAL SCHOOL, AND THE EXPERIMENTAL PLAN OF THE AGRICULTURAL UNION AT WIESBADEN.

Extracted from the Numbers 30, 32, of the Seventeenth Annual Report of the Agricultural Weekly Paper for the Duchy of Nassau.

On the southern declivity of the Taurus, at the foot of these charming heights, decked with thick forests of beech, which stretches from the Wetteran along the fruitful banks of the Main and Rhine to the neighbourhood of Rüdeshcim and Bingen, rises immediately adjacent to the last houses and gardens of the city of Wiesbaden a gently rounded hill, which lying about two hundred feet above the plain, though protected by high mountains against the rough north, is yet exposed to the breezes which come from the east and west.

The kind of stone which forms this hill is talc, disposed in horizontal or only very little inclined tables. The uppermost rows of this stone are decomposed and form a top soil but little fruitful, which soon dries, and which on the top is from twelve to eighteen inches deep, but on the steeper declivities of the west side is only from eight to ten inches deep, and mingled with numerous stones.

The southern and south-western slope, and even a part of the height, was in earlier times planted with vines, which, according to the report of old men, and according to the tithe-register, must have produced a rich

revenue. Several bad seasons and war disgusted the possessors, who relinquished their painful toil, and thus it happened that this declivity, in spite of its happy and sunny situation, remained many years without culture, and served the goats of the poorer inhabitants of Wies as pasture land.

This height was therefore called Geisberg (goat-mountain). It commands the most clear and extensive view of all the environs. The eye never becomes tired of contemplating those fruitful plains of the Palatinate, which are bounded on the east by the heights near the Berystrage, by Melitocus and Konigstuhl, near Heidelberg, at the mouth of the Neckar, and on the west by Donnesberg, on the banks of the Nabe; watered by the finest rivers of Germany, viz. the Main and Rhine; ornamented with the most luxuriant plains, and with rows of fruit-trees leagues in length; and traversed with roads, which proceeding from the adjacent cities of Mayence, Worms, Darmstadt, and Frankfort, connect so many neighbouring states. This pleasant situation, in the protection of the northern forests, and in the vicinity of the town, with the knowledge of the former state of its cultivation, prompted, about 1770, a highly-deserving statesman, whose works yet remain in the happy remembrance of the inhabitants of Nassau, namely, the minister Herr von Kruse, to the resolution of cultivating anew a large part of this eminence. Seventy acres were bought, hedged in to protect them against cattle, broken up by degrees, planted with fruit-trees and sweet chestnuts, and the necessary habitation and offices built.

In the year 1798, Herr von Kruse resold this little property. From this time Geisberg began to be one of the most admired retreats of the inhabitants and visitors; and many who read this book in Germany, or far away, will remember with pleasure the cheerful hours which they, resting from business or for the sake of their deranged health, had spent under the plantain trees of

Geisberg. In the course of years the farm passed through the hands of several proprietors, and none of them could cease (being excited by the peculiar beauties of the spot) from extending the buildings, embellishing the environs, and joining it with the town by carefully laid-out roads and plantations. In the mean time all the proprietors were rather landlords than farmers. They took more care of the comfort of their guests than the improvement of their lands.

In the spring of 1833, his highness the Duke began to support actively the agricultural company, now existing for fifteen years. The committee resolved to set apart the former sparings from the profits of the weekly agricultural registers and annuals, appearing since 1819, towards the purchase of a private property, which would be adapted to various experiments in the several branches of agriculture and pasture, the culture of vines and hops, and rural gardening; which should have a situation easily accessible and visited by many inhabitants of Nassau, and should comprise the agricultural school established since 1818 at Idstein, with its collections and the cattle-hospital.

Amongst the possessions which were then offered for sale, and whose price did not exceed the limited resources of the company, Geisberg was chosen, and the duke ordered immediately that the agricultural institute of Idstein should be transported there. In the spring of 1834, the purchase was settled under very favourable conditions. In July the same year, the farm was taken under proper management; and towards the end of the season, during which the former tenant occupied the garden and a part of the buildings, the necessary stables, a workman's and gardener's house, and a dwelling for the director, and lecture-room, the rooms and halls for the exposition of tools, for the physical apparatus, the library, and collection of natural curiosities were arranged; and a cattle-hospital with the necessary infirmary, guardian's

room, and dissecting-rooms were built; roads made, the separation of the different fields laid out, the garden enlarged, the pieces of ground destined for nurseries and hop-gardens dug three feet deep, and before winter planted with above five thousand young fruit-trees from the nursery of the institute at Idstein; the collections of tools, natural curiosities, apparatus and instruments, brought from that place again arranged, and in the spring of this year professors to carry on the establishment named by the ducal government. In the division of the fields, the following principles were followed by the director.

Crops, which require the most manual labour and greatest attention in their management, ought to be as near as possible to the buildings, or at least easy to reach by convenient ways; the experiments in agriculture rather peculiar to the neighbourhood of Nassau, and the fruits and vegetables as yet little known ought to be exposed to the inspection, the approbation or censure of the public; and the comparing experiments upon the influence which a straight and continual row of plants has upon the developement of the vegetables, which only by years of experience becomes manifest to the judge of agriculture, ought to be more removed from the gaze of the visitors whom no such important end conducts to this eminence; but all fields should be made easily accessible and fit for all kinds of tools, divided into surfaces of equal extent for the more convenient comparison of expenses and income, and for a protection against the east and west winds, which hardly ever rest here, should be embellished with the greatest possible ornaments of the soil, with plantations and trees.

According to these views, the obstacles which the qualities of the soil presented in different places, were not feared. Where it was necessary, the soil was raised or sunk, earth brought and stones taken away, roads

changed and trees transplanted. The barren stony fields, which bordered the houses on the east side, were taken into the garden and converted into a nursery, which would produce, not indeed tender, delicate, or soft-bred shrubs, but trees durable and fit for any soil. The long narrow field, which stretches on the southern declivity along a shady path from the farm to the city, is appropriated to the above-mentioned experiments in the culture of different plantations; the lower fields to the culture of fodder, wine, and hops; the higher fields, in small divisions of a few roods, to the culture of various vegetables and corn, and the rest left as fallow land.

The larger and more level fields, which lie north and west of the farm between the buildings and the limits of the wood and meadows, are destined to experiments upon the influence of different rotations of corn and propagation of green crops. They are so disposed that each field should contain a morgen*, or every kind of culture as many morgen as it has divisions, since in experiments of this kind success does not depend on the size of the fields, but on their exactly equal culture.

Behind the farm lies a department composed of twelve fields, where every grain follows in succession. In order to loosen the earth to a greater depth, without bringing the red earth to the top, all the fallows are doubly ploughed, that is, the subsoil of the furrows is twice broken by the plough without the moulding-board, or by a colter, and the subsoil of the furrows in the fields devoted to deep-rooted plants broken with the harrow; since upon this dry height the success of summer grains, such as barley and oats, is insecure, and as there is enough of manure, vegetables and green crops after fallow are cultivated. After these, winter grains are cultivated, and the fields, as is common in the south of Germany, manured every three years.

* Those are called normal-measure acres, which contain one hundred roods, each rood five French *metres*.

This then would be the series of crops :—

- 1st year, fallow ; manured.
- 2d ditto, winter cabbage.
- 3d ditto, winter crops, such as wheat, rye, with clover.
- 4th ditto, clover.
- 5th ditto, hemp.
- 6th ditto, winter crops.
- 7th ditto, drilled green crops ; manured.
- 8th ditto, poppies.
- 9th ditto, winter crops.
- 10th ditto, vegetables or vetches.
- 11th ditto, winter crops with clover.
- 12th ditto, summer crops.

On the north adjacent to it is an English rotation farm of six fields, whose characteristic peculiarities consist in this, that food for cattle and corn follow each other alternately, and each one prepares the ground for the other. The crops follow in this order :—

- 1st year, drilled crops ; manured.
- 2d ditto, summer crops with clover.
- 3d ditto, clover.
- 4th ditto, cabbage or winter crops.
- 5th ditto, pulse-crops.
- 6th ditto, winter crops.

Here also, in the fields devoted to fallow-crops, the subsoil is broken with the hoe and harrow, and ploughed twice. Next to these lies a two course culture, as in Alsace and the upper Rhine. It is manured every four years, and alternately sown only with winter crops and drilled crops, and instead of the last, pulse-crops or fodder are sometimes planted. Every four years the ground is ploughed twice for drilled crops, and for the sake of experiment the ground is not manured for these but for the winter crops immediately following. The steep western side, which extends to the meadow-valley, is according to the rule of the Holstein *couple-culture*, divided into fourteen fields. But since on account of its dry situation and

of the small size of the fields a natural and artificial pasture would promise a small return and might be difficult to use, the culture of lucerne was joined with this culture. The crops follow in this order :—

1st year, drilled crops, without manure.

2d ditto, winter crops.

3d ditto, fallow manure.

4th ditto, winter cabbage.

5th ditto, winter crops.

6th ditto, fallow crops ; manured.

7th ditto, oats with lucernes ; oats cut while green.

8th to the 14th ditto, lucerne, which in the spring of the last year is ploughed and the subsoil ridged up with the hoe.

The fields, which extend between the garden and the Wiesbaden carriage-road, are used for a Mecklenburg culture, and the sainfoin should replace the pasture-fields and be planted in alternate order with other crops in the following series :—

1st year, fallow crops, early potatoes, or maize for green fodder.

2d ditto, winter crops.

3d ditto, fallow ; manured.

4th ditto, cabbage.

5th ditto, winter crops, with sainfoin.

6th to 8th ditto, sainfoin, turned up in the autumn of the last year and the subsoil broken with the hoe.

All the fields belonging to the kinds of culture hitherto described form with the meadows one division, and are inclosed by hedges on three sides ; but before the garden, on the southern side of it, lie also some separate pieces of ground of various sizes, which are devoted without a limited series of crops to the culture of various vegetables, and particularly to compare experiments upon labour and manure.

In order also not to pass over what does not belong immediately to the first necessities of life, but serves

more to embellish the rustic abode, and to give to busy toil a brighter exterior, the already existing gardens are enlarged, decked with flowers, blooming shrubs, and many kinds of roses; also care is taken of delicate flowers, and a little fruit or orangery disposed according to the plan of the famous Dial.

As it did not seem advisable to conduct a formal establishment on so small a property as the eighty morgen, a family of labourers was hired which takes care of the cattle, of the daily occurring labour, and inhabits the little side buildings (1, 2, 3), which contain also a place where the food for the cattle is prepared. The chief building contains also in the lower story a new built stall for twelve cows, an older stall for four oxen, near which there is a covered space in which in future the machines for cutting fodder, threshing, and cleaning the grain, are to be placed barns and granaries.

Adjoining to this is the dwelling for the gardener, to whom at once the superintendence of the labourers, the purchase of milk, and fruit, and of young trees from the nursery, are confided. Then come a large hall newly arranged for the preserving of agricultural tools and models, the office of the agricultural union, a lecture-room, and two vestibules. Next to these is a new built cattle-hospital, which comprises stalls for sick horses, oxen, sheep, and swine; a guardian's room, hay-loft, a dissecting room, and a granary for keeping fodder and straw; and outside the court is so arranged that sick animals without passing through the court can be brought into the hospital at any hour of the day or night. The space in the upper part of the chief building is used for fruit-granaries, for the dwelling of the director, for a room for the physical apparatus, for a chemical laboratory, for a library and collection of natural curiosities, for the assembly-room of the union, for vestibules and staircases.

All the arrangements here described, and as we may hope answering their end, are now so far completed that

the agricultural school, in which the instruction on account of the changes of the whole institute was necessarily interrupted during the preceding year, will be able to be reopened with the beginning of next autumn. The end which will be attained by this institution, now existing seventeen years, and the principles concerning the nature and extent of the education to be given, has been on different occasions so minutely and plainly described, and invariably followed for many years, have been found so good in practical application, that with a few exceptions only regarding form, nothing has been found necessary to be changed ; but for the sake of remembrance I will repeat in a few words what has already been described.

I.—BRANCHES OF INSTRUCTION.

It is the husbandman's task to prepare the earth beforehand for the reception of seeds, to cultivate plants and rear cattle, to protect the fruit of his labour against destruction and sickness, to preserve them in healthy places promising every success, to use them advantageously for himself and his family, or in relation with his fellow-citizens to lay the chief, the most essential, and most general foundation of the welfare of his country, to be able to render an account to himself of his conduct, and also to communicate his views and experience by writing and words to others.

Natural Philosophy. Water and air, heat and cold, light and shade, tempests and storms, dew, snow, and rain, act sometimes favourably, sometimes unfavourably on the soil, its cultivation, the growth of plants, and the life of cattle. All these powers, all mutual influences and obstacles, all appearances resulting from them, which either favour or obviate the views of the farmer, are commonly expressed by the word Nature. To observe nature, to trace her up with indefatigable care, with a mind always open and unprejudiced in every situation in all rural labours, and her secret actions and ways ; to learn to follow

in his undertakings her infallible signs, which clearly present themselves to the observant farmer, is the first and most important law, which the pupils of the agricultural school have to follow. The following information will serve to awake and direct a desire of observation.

Mineralogy makes known the nature of marshes and turf-bogs, together with the most essential things in the culture of the earth, the changes of the surface, and the origin of springs; teaches the kinds of stone most commonly existing, their native places, their qualities, their utility as stones for building and paving; teaches how they by degrees decay and dissolve into earth, which covers the rocks in thin or thick layers, and according to its original qualities, to its situation, to its treatment, brings up more or less abundantly the plants which take root in it.

Botany exposes and names the single interior and exterior parts of the vegetable world; teaches the interior structure of plants, their nutrition, their vegetation from the first developement of the green to their flowering, and the ripening of the seed; and shows how by outward obstacles, by superabundance or insufficiency of care, diseases of plants arise, and how they may be prevented, or in some cases healed; and finally makes known the appearances, situation, time of flowering, of ripening, and the utility of the most common wild and domestic plants, which have any claim on the attention of the husbandman.

Natural History of Animals treats in exactly the same manner, in the same order and extent, the research concerning the forms, the structure, the breeding, multiplication and developement of living creatures; and describes the particular animals important to the farmer, which he seeks either to destroy as noxious, or only to diminish, or such as he spares and preserves, or brings up and nourishes in his stalls as useful to him.

Physics explain the nature of things; that is to say, when the former studies have described stones, plants,

and animals, as really existing things according to their appearance and properties, here the common qualities of bodies and substances are investigated, of what they are composed, and into what they dissolve again ; as also the exterior powers and influences under which they remain in existence, and to which they are subject in death, the conditions and progress of fermentation and corruption, the properties of light and colours, of fire, air, water, the formation of rain and dew, of snow and frost, of hail and ice, and the remarkable appearances which become visible to us in the force of the lightning.

Agriculture. The study of agriculture begins with introductory considerations upon the exterior, natural, and political relations of the husbandman, of his possessions, which he must learn to know, and according to which he must rule his farm and household. It shows the peculiarities and the consequent best treatment of the varieties of soil in different situations, and the changeable influence of the atmosphere ; teaches the means of preserving the fertility of the soil, or to increase it, alternate mixture of earth, manuring, watering, and labouring, and makes known the composition and use of the principal tools, the selection and employment of beasts of draught, the various positions and occupations of the labourer himself ; it considers the value of the land in an uncultivated state, as meadow or pasture-land, and cultivated, as tillage or garden land ; teaches the management of all kinds of grain and pulse actually cultivated or worthy of culture, root-plants and fodder, oil, dying and spinning plants ; displays the principles and the value of the various arrangements of fields and rotations of crops according to the state and population of particular lands and neighbourhoods, and shows how the intelligent farmer may and can find the kinds of crops suited for each situation. In like manner the plans and arrangement of the kitchen gardens, vineyards, hop-gardens, and nurseries is treated of and explained ; it teaches how without expense, only by

cleanliness and order, by an ingenious employment of useless spots, the environs of every single farm and village may be embellished ; it compares and estimates the ideas of the principal farmers of different countries on the rearing, management, and fattening of cattle, and finishes with the principles of simple agricultural book-keeping, and the best employment of all productions, or the study of profit.

Study of Industry displays the principles by which the rough productions of the earth become employed, ennobled, and enhanced in value, and gives the manifold exterior means and preparations which assist to attain this end ; it comprises only the branches of industry, which either present themselves in every household, or which may easily be joined with it in certain relations, and with profit. We include therein the employment of corn and potatoes for meal, starch, gruel, and bread ; the extraction of spirituous liquors from corn, rooted plants, and fruit ; the preparation of wine from vines and fruits, of sugar from the sap of the carrot and beet-root, &c. ; the separation and management of oil, vinegar, and brewing. The most common rules, according to which the various tools necessary to these arts are to be arranged, and the several works treating on this subject are explained, and the principles laid down by which the productions obtained are to be preserved till the time of their use or sale.

Rural Architecture. Architecture is only learned so far as it appears necessary that the farmer and mason may understand each other mutually, and the farmer may learn to provide the necessaries of his farm, and to judge of the jobs to be undertaken or already done. For this end this study begins with examining the foundations and means of building, such as red and brown stones, water, bricks, wood, glass, straw, lime, sand, &c. ; displays the principles of the union of stone and wood and the proper formation of roofs ; founds on this preparatory knowledge

the disposition of farm-offices, and the most proper and easy situation of the particular buildings belonging to it; as also the interior arrangement of stables, barns, dwelling-houses, and breweries; and closes with an introduction to the drawing of plans, which is followed by rules very important, and generally too little attended to.

Cattle rearing. The farmer requires this science in immediate relation to his business. It ought to make him acquainted with the interior and exterior parts of cattle in a healthy and diseased state, that he may learn to judge of their value, and in trade guard against injustice and expensive lawsuits; it ought to inform him of the roots of disease, which lie in improper fodder, attention, use and false principles of breeding; of the influence of the weather, and the peculiarities and signs of contagious diseases, that he may anticipate the breaking out of any dangerous evil, which is more the duty of the farmer than of the cattle-doctor, and must be more important to him than even the cure; it makes him vigilant upon the exterior appearances and course of the diseases, that he may learn to judge the greatness of the danger, and may seek assistance in proper time; and acquaints him with the remedies most simple, most accordant with nature, and most usual, and the means of their application, especially in sudden cases threatening danger on the spot, when the presence of the doctor, often living far off, cannot be soon enough procured.

Principles of Book-keeping. It is supposed that the pupils are acquainted with and versed in common arithmetic. In this institution they are only examined strictly, and then introduced to simple book-keeping, which may be devoted to teach the farmer the profit or loss which his different branches of farming bring in.

German Language. In order to express simply and clearly what one has seen, experienced, or learnt on the various wants and wishes, in a properly disposed order, instructions in writing are taken by those inferiorly edu-

cated, and for that end tasks are given to be solved in various branches of science.

II.—MANNER OF INSTRUCTION.

The whole manner of the instruction consists in convincing the pupils of what is said to them, to make them comprehend it as either a *truth* known by them, or an *opinion* as yet doubtful, which requires further investigation; therefore nothing is learnt by heart, every thing contained in the books of instruction, and written in their copy-books, is treated of at large and exemplified through models and subjects from nature. After going through each part, questions are given and answered in writing.

III.—TIMES OF INSTRUCTION.

As the experience of several years in several countries has shown, that even on a large property, a number of young men cannot at every hour be usefully, practically employed; that in no agricultural, instructive establishment a connected, fundamental, *theoretical* instruction can, with satisfaction, be united with and precede practical experiments; that the sons of the farmers, whom we most like to see collected in our establishment, find sufficient opportunity in their parents' houses, or amongst their relations and other friends, to acquaint themselves with all arrangements made in agriculture and house-keeping; therefore, for the future, only the season of winter, from the middle of October to the middle of April, will be employed for giving theoretical instruction.

The pupils spend the summer half-year either with their parents or with other distinguished farmers, in whose business and labour they take a part, and on their return give an account how they spent their time. The director provides for the establishment of foreigners, but natives have the choice of their own place of trial; both are obliged to execute every thing given them by their landlord. On account of the various kinds of tillage,

which are attended to in this duchy, and the kindness of the farmers, the director is in the fortunate situation of being able to show each of the students a place suited to his future state. He who comes from wine countries will pass the summer in the Rhingau; he who comes from a rough neighbourhood on the *Werterwald*, and one from a fruit country, can settle on the banks of the Lahu and Maine. But in order that the young men may see the result of the experiments here made, they return every summer for a few days, when the husbandman has a little leisure after the hay harvest.

The whole theoretical course *can* be finished in two winter half-years. In the first winter half-year can be learnt—

1. German language.
2. Accounts.
3. Mineralogy and botany.
4. Physics, first part.
5. Farming, general division of agriculture, cattle, meadow culture.
6. Rural architecture.
7. Cattle medicine, first part.

In the second winter half-year can be learnt—

1. Business forms, bills, &c. &c.
2. Book-keeping.
3. Zoology.
4. Physics, second part.
5. Farming, which comprises details of agriculture, cattle-keeping, gardening.
6. Mechanism.
7. Cattle medicine.

IV.—MEANS OF INSTRUCTION.

Under this we understand the various collections which are partly indispensable to the professors for their own accomplishment, and serve partly for explanation in the hours of instruction.

1. *Library.* This collection contains some distinguished works in each branch. Every year the most useful new works are chosen for the proposed end. Most agricultural societies in Germany have sent us their writings; and the reading assembly, which lasted several years in the duchy of Nassau, left their periodical agricultural works to the library of the institute. It consists now of upwards of two thousand volumes. The use of it is allowed to the students, but the books are chosen according to the capacity and advancement of the pupil by the master.

2. *Collection of Natural Productions.* The collection consists (in exact conformation with the size and plan of the institute) of a series of universally formed kinds of stone important to the farmer, of dried plants, seeds, of stuffed animals, of shells, and skeletons of domestic animals, animal worms, misformations, and single bodies in diseased states.

3. *Physical Apparatus.* A collection of instruments and machinery to represent the principles explained in physics about the weight and attraction of bodies, of the pressure of the air, the properties of light, the joining and separation of matter, the effects of lightning; and also models, which explaining the putting together of stones and wood, belong to architecture, and instruments for surveying. This collection is, considering our limited object, very complete, and may be regarded as perfect.

4. *Models and Tools.* The collection of tools comprehends the most important *agric*-tools, ploughs, horse-harrows, sowing-machines, &c. partly in large, partly in models; and instruments which serve the purpose of medicinal operations on cattle. It is continually increased as new discoveries, important to the farmer or surgeon, render it necessary.

5. *Cattle-Hospital.* It is superintended by a particular experienced doctor, and may be used by all cattle proprietors of the duchy, but remains shut in summer.

Animals suffering under epidemic diseases are not received. Attendance, physic, and medicinal treatment are given gratis; only fodder and straw are paid for, or sent by the proprietor of the animal. As an attendant, a young man is engaged out of a poor peasant's family, who as smith or shepherd will thus collect for himself medicinal knowledge. He lives in the hospital, and has the whole care of the beasts, cleans the stables, troughs, &c. prepares and warms the plasters, &c. The immediate superintendence is week and week in turns in the hands of two pupils, who execute the prescriptions of the doctor, give medicine, inspect the rubbings and washings, &c., and give every evening an account of the progress of the disease, and of all circumstances which they observe, to the teacher, who makes use of their information in his instruction, and give monthly accounts to the director.

V.—REGULATIONS.

Great learning is not expected from the pupils who are received in the farming-school, but it is expected that they have distinguished themselves by diligence and good behaviour in the public school and other institutions which they have before attended; that they have tried their disposition, their powers of mind and talents, and have made a firm resolution about their future occupation. For it is apparent from the whole arrangement of our institution, that here neither learned economists study, nor that those called over-servants should be mechanically trained up to labour; but that independent, thinking, provident farmers, who inquire* about the reason of their actions, should be formed, who because their mind is raised and they are awoke from the slumber of custom,

* *Id est*, who do not do any thing because their grandfather did it before, but search into the nature of every thing and proceed accordingly.

fear no bodily toil, and see in labour their pleasure, and in success their wages.

Therefore those who wish to enter must have attained at least their sixteenth year; but after long experience, we have found fittest for our course young men of eighteen to twenty-two years, who have left the elementary school with good testimonials, have shown themselves good workmen and attentive assistants under the conduct of an understanding father, or of a paternally disposed friend, have received a mind not confused but fresh, cheerful, and willing. Those who being brought up in cities had not opportunity for such preparation, find it in the institution itself, if they spend the summer with proprietors or tenants of larger farms, and take a part in all their various occupations.

The time of admission therefore is both spring and autumn. Applications are sent to the subscribers, with testimonies of the conduct of the pupils hitherto, and the knowledge which they have acquired.

During their abode in the institute, the students are obliged to conduct themselves in compliance with the regulations and with the orders of the director in all respects, who is also commissioned by the ducal government to watch over the useful employment of their time out of the hours of instruction, and over their moral behaviour, to punish every neglect of the undertaken duty or unbecoming conduct with severe reproaches, or if they remain without effect by removal from the institution.

VI.—SALARIES AND PENSIONS.

All public instruction is free to the natives: foreigners pay for the theoretical and practical instruction, in the winter *semester*, forty-four florins to the institution, which according to a direction of the ducal *land government*, may be converted to the preservation and extension of the collections. To natives who distinguish themselves by

diligence and good conduct, sixteen pensions of twenty-five florins each, namely, twelve to future farmers, and four to future surveyors, who devote themselves principally to agriculture, are given each winter out of the funds of the school.

All the pupils live separately in the town where they can obtain lodging, fuel, lighting, and board, for from one hundred to two hundred florins the half-year.

Closer details upon the arrangements and effects of the institute may be found scattered in the agricultural weekly papers which have appeared for seventeen years, and in the annals of the *agric*-union of which the ninth volume is now in the press, or from the subscribed director of the institution,

WILLIAM ALBRECHT,
Ducal Nassau Counsellor.

Wiesbaden, August 1835.

AGRICULTURAL SCHOOL NEAR STUTTGARD.

I found the prospectus of the agricultural school near Stuttgart too voluminous to add to these few notes, and I will therefore most probably give it in a separate form to the public, should I find it desirable, or that it would interest any large portion of the community. It is certainly a splendid and practically useful establishment, and one well worthy of imitation.

CHARLES WOOD, PRINTER,
Poplin's Court, Fleet Street, London.

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